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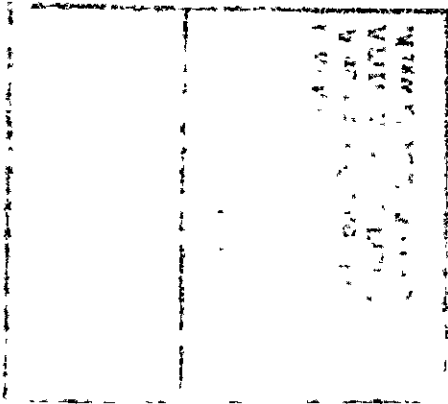
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Foreword

This monograph tells of the establishment and development of a statistical control system in the Army's air arm. The organization and function of the Statistical Control Division, problems of recruiting and training, and methods of operating--all are described in detail. The present study was written by Dr. Frances Acomb.

Like other Historical Division studies, this history is subject to revision, and additional information or suggested corrections will be welcomed.

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Chapter 1

STATISTICAL ORGANIZATIONS IN THE ARMY AIR ARM
TO 9 MARCH 1942

PRIOR to 9 March 1942 there was no centralized administrative control over statistical reporting and analysis in the Army's air arm. In the Air Corps there were a number of statistical offices each of which had acquired more or less generalized statistical functions without being able to achieve status even approximating that of the statistical agency of the air arm. Each kept its own records, with little reference to the Air Corps as a whole. So great was the variety of the forms in which information was obtained, that for the purposes of correlation and analysis whatever data were available usually had a very narrow range of utility.

Until 1939 this lack of integration in statistical reporting occasioned little concern, for there were few persons in the Air Corps who possessed a very broad concept of the utility of statistics. Where it existed, it was associated with the concept of administrative management control. But beginning in 1939 and continuing at an ever-accelerating rate, the air arm underwent a tremendous expansion which raised it to a position coordinate with the ground and service arms. This development, as well as responsibility for planning the air war program, impressed Headquarters of the air arm with the necessity of having reliable data and significant correlations thereof for all phases of Air Corps activity. Although a reporting system really capable of producing the requisite data was not worked out and installed until after Pearl Harbor, steps were

taken to initiate a statistical reform while the country was still at peace. The origins of statistical control are to be found in the period 1939-1942.¹

*The Development Section,
Inspection Division*

The first important precursor of the statistical control organization of World War II was the Development Section of the Air Corps' Inspection Division, created on 1 April 1927.² The compilation of statistical studies of accidents and forced landings comprised the principal activity of the Section,³ which under Earl Ritzert did pioneering work in methodology, particularly in devising new forms and standards for the recording of aircraft and engine time and individual flying time.⁴

The Development Section was considered to have a kind of monopoly of the field of accident and forced landing reporting, and was therefore permitted to absorb a duplicate activity for life insurance which had been carried on in the Information Division.⁵ The directives which defined the functions of the Development Section had gone even farther, however, for they had contemplated the operation of the section as a research and planning agency for the Office of the Chief of the Air Corps (OCAC) as a whole, with respect to both technical inspection and management control.⁶ Actually, however, the Development Section was able to do very little about

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management control, Nor was the statistical work it performed for other divisions of the OCAC very extensive. The section made a number of special statistical studies at the request of the Plans Division and the Executive of the OCAC in connection with the defense of legislation pending before Congress; and some of its personnel worked on loan in other offices, chiefly Plans, during periods when specialists with training in the mathematical treatment of statistical data were required, but that was virtually all.⁷

In 1939, when the problems of expansion awakened an interest in statistics in the Air Corps, Headquarters officers increasingly looked to the Development Section as the principal statistical service agency within the OCAC. In July of that year the Chief of the Air Corps directed it to make a detailed study of the routines of each division of the OCAC with a view to coordinating and simplifying the compilation of statistical data.⁸

The Development Section seized its opportunity. The study it presented pointed out the difficulties it was encountering in operating as a statistical office when the modes of securing data were not standardized and the administrative supervision of the process was not centralized. Attributing to its subordinate position under the Inspection Division the limitations on both the amount and kind of work which it could undertake and the influence it could exert, it asked for itself a more advantageous position within the organization of the OCAC. It suggested specifically that a new Administrative Research and Statistics Section be set up in the Executive Division, and that the personnel of the Development Section be used as a nucleus for it. The new section would actually have the administrative research functions

in the exercise of which the Development Section had felt itself thwarted, while its statistical services would be correspondingly more extensive than had been those of the Development Section. It would conduct an inter-office record and report survey with a view to establishing centralized records for the compilation of data which were commonly used by two or more offices, prepare routine compilations on reports periodically required by two or more offices, offer statistical services whenever and wherever needed, and conduct studies pertaining to systems, records, and reports for the Air Corps at large.⁹

No action was taken on this proposal for nearly a year. Meantime, the Inspection Division kept pointing out to the Chief of the Air Corps that "the work of the Development Section is extremely valuable and is becoming of increasing importance," including "up-to-date observations of the many effects of the expansion program."¹⁰ In August 1940 the Chief of the Development Section again suggested that the Development Section be transferred to another division, this time to a proposed new Administrative Division.¹¹ Under the new organization the section would also include a machine-tabulating unit, the creation of which had been approved about this time. The unit was expected to design master punch cards listing data on flying time, which would serve the requirements not only of the Inspection Division, but of all the other divisions of the OCAC as well.¹²

Administrative Research and Statistics Section, Administrative Division

The plans just described were carried into effect, in essence, by the reorganization of the OCAC in November 1940. At that time the Development Section disappeared from

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the Inspection Division to appear as the Administrative Research and Statistics Section of the new Miscellaneous Division. On 25 February 1941 the Miscellaneous Division was renamed the Administrative Division; Capt. James M. Farrar was chief of the new Section.¹³ The section was described, in the directive which established it, as an agency¹⁴

operating for the purpose of developing improved administrative procedure systems, forms, reports and standard practices, and for the compilation of such statistical matter as is required by all divisions of the Office, Chief of the Air Corps, to include statistical analysis service as required.

The Inspection Division, through a newly organized Safety Section, was to continue the handling of accident statistics, which had previously been the Development Section's major activity.¹⁵ A machine tabulating unit was included.¹⁶ By March 1941 the new section was handling flight records, medical examination records, and emergency tabulations for the various divisions of the OCAC. In addition it was authorized to undertake the processing of Air Corps military personnel data; ultimately, it was expected, civilian personnel records would also be entrusted to it.¹⁷ An OCAC memorandum of 23 April called attention to the type of work being done by the Research and Statistics Section, which was said to be "now equipped to handle some of the administrative problems of the Air Corps."¹⁸

Materiel Division Statistical Organization

The establishment of the Research and Statistics Section did not mean that statistical control in the OCAC had been centralized. Two other autonomous statistical units still existed. The Safety Section of the Inspection Division continued, as

had been already indicated, to receive and analyze the accident data formerly collected by the Development Section.¹⁹ The Materiel Division had its own statistical organization, producing periodic reports relative to the production, status, and flying time of aircraft and engines.

The Materiel Division organization had been built up over more than a decade. When it was created in 1926, its principal part was the Statistics Unit of the Field Services Section, which maintained the consolidated records of all airplanes, engines, and lighter-than-air craft, showing the number, location, condition, status, and flying time of each.²⁰ Under the direction of the Field Service Section, business-machine equipment was installed at Wright Field between 1929 and 1932, at first primarily for cost-accounting purposes, but soon for other statistical uses, including the recording of aircraft and engine time.²¹ Though statistical data and reports emanated from other sections as well, the Field Service Section operated the principal statistical agency in the Materiel Division until 1936, when its Statistics Unit was incorporated into the Budget Office.²²

A reorganization of the Materiel Division in 1939 removed the chief of the division from Wright Field to Washington, leaving the facilities at Wright Field under the direction of the assistant chief. In the Washington offices a new statistical agency was organized--the Materiel Planning Section. Besides coordinating the industrial planning done by the Materiel Division and other divisions of the OCAC, the Materiel Planning Section maintained statistical records and reports, and made studies for the use of the Chief of the Materiel Division and the Chief of the Air Corps.²³ The Materiel Planning Section became the

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Statistical Section in name as well as in fact in January 1941.²⁴ In addition to these functions, under its new name it was charged with maintaining liaison with the statistical sections of the office of the Assistant Secretary of War, the War Department General Staff, and the Office of Production Management, as well as the Statistical Unit of the Budget Office at Wright Field. It was divided into a Statistical Unit and an Industrial Planning Liaison Unit.²⁵

The Materiel Division's reorganization of 1939 had its effect upon Wright Field. The status of the Statistical Section of the Budget Office was little changed;²⁶ it was still "specifically charged with the coordinating of all reports relating to the procurement and maintenance of aircraft, aircraft accessories and its [*sic*] components, for transmittal to higher authority."²⁷ But the reorganization did bring into being the Production Engineering Section which by April 1941 had developed a statistical organization²⁸ that became one of the major statistical agencies at Wright Field. The Statistical and Report Branch, as this was called, was the responsible source of information regarding the status of production of airplanes, engines, and propellers. It prepared estimates and reports on deliveries, and made up certain portions of the Materiel Division Monthly Consolidated Statistical Report, issued by the Budget Office.²⁹

During 1941 efforts were made to integrate the work of the various statistical sections of the Materiel Division, define their relations with agencies outside the division, and avoid duplication of effort. On 6 June 1941 the assistant chief of the division directed that any office under his jurisdiction desiring a report from the aeronautical industry

must first coordinate it with the Budget Office. All reports which were to be submitted to higher authority must likewise be cleared through that office.³⁰ The Budget Office and the Executive also agreed that henceforth all sections in Washington which desired statistical information from Wright Field should first apply to the Statistical Section, to discover if the desired data were on file there. If the data were not available in Washington, then the Statistical Section would request it through the Budget Office, which would obtain it from the proper field agency or agencies. In no case would a Washington office make a request directly to a field agency.³¹

Since prescribed channels of communications for statistical information now existed within the Materiel Division, the statistical organization of that division may be said to have been tolerably well integrated by the close of 1941. It had been using mechanical equipment for a good many years. The Statistical Section's work was highly essential to the functioning of the division, which was jealous of the autonomy of its statistical organization in the face of the plans set afoot late in 1941 looking to the consolidation of all statistical activities carried on in the Army Air Forces.³²

*The Statistics Section,
Plans Division*

The statistical work performed by the Safety Section and the several agencies of the Materiel Division was rather specialized in nature. More general in character, and therefore more likely to compete with the activities of the Research and Statistics Section was the work done by the Statistical Section of the Plans Division. The Statistics Section was established about the same time

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as the Research and Statistics Section, sometime between the reorganizations of the OCAC on 23 November 1940 and on 25 February 1941.³³ Its advent was related to the fact that the Plans Division had been entrusted in 1940 with the responsibility for long-range, over-all planning for the expansion of the Air Corps.³⁴ "The scope of the activity to be performed in this Section," wrote the Chief of the Plans Division in March 1941, "will require establishing and maintaining statistical controls for each phase of activity of the Air Corps."³⁵ Though the section was still in the formative stage, it was already producing some work, and in the near future the scope of its activity would be extended to include³⁶

statistical research of all phases of the activities of the Air Corps which directly or indirectly concern the Plans Division; establishing and maintaining a central repository of current and historical data pertinent to the Air Corps program; analyzing the activities of the Air Corps to determine relative production scheduling and rates of progress to determine a basis for forecasting probable rates of expansion, procurement, etc., establishing statistical controls with interpretative presentations of conclusions in tabular, graphic, and narrative form to aid in planning, controlling, and maintaining a predetermined, coordinated, and balanced rate of expansion of the Air Corps.

The Statistics Section, Plans Division, attempted to obtain some of the personnel of the Research and Statistics Section by suggesting that those functions of the Research and Statistics Section which clearly overlapped the functions of Plans, Statistics, should be transferred to the latter.³⁷ In order to gain-say the natural objections which the Chief of the Administrative Division made to this proposal,³⁸ the Plans Division denied that it had any

intention of taking over the Research and Statistics Section completely, but insisted on the priority of its own needs. The whole issue of the autonomy of the Air Corps was at stake, it said. The monitoring of urgent Air Corps projects that had formerly been under the supervision of the War Department General Staff agencies had recently been transferred to Plans, and it was imperative therefore that Plans, Statistics, should have more and highly competent statisticians. Furthermore, these statisticians should be an integral part of the Plans organization, not brought in from the outside for special projects. The Plans Division specifically requested the transfer to its own Statistics Section of Captain Farrar, Chief of the Research and Statistics Section, and one civilian assistant, who together would create and supervise a new group of statisticians.³⁹ Captain Farrar was subsequently transferred to Plans, Statistics.⁴⁰

Although the Plans Division specifically denied any intention of minimizing the importance of the Research and Statistics Section, after Captain Farrar's transfer the latter actually became a subsidiary of the Plans agency. The Executive directed the Plans Division to make a study of the OCAC organization; he told the Administrative Division--i.e., the Research and Statistics Section--to provide the organizational charts and data, which Plans would need for this purpose.⁴¹ After the study was completed, the Chief of the Statistics Section, Plans Division, wrote:⁴²

The cooperative work on this project has shown very clearly how the facilities of the Research and Statistics Section can be used effectively by the Plans Division in the conduct of planning activities. Certain parts of larger projects can be delegated to that Section, under our advisory supervision,

thereby reducing the amount of operational 'pick and shovel' work to be done by the Plans Division.

This fitting of Research and Statistics and Plans, Statistics into a kind of unofficial hierarchal relationship reflected the conviction of Captain Farrar and his associates that it was desirable to centralize administrative statistical controls so as to secure the standardization of statistical reporting. As soon as the organizational project was out of the way, they believed, the Research and Statistics Section should conduct an analysis of all reporting systems and reporting forms used by the Air Corps, and should survey the statistical needs of the entire Air Corps.⁴³ As it turned out, such a survey was never made by the Research and Statistics Section. A series of reorganizations placed this responsibility elsewhere and resulted in the Research and Statistics Section ceasing to function and, finally, to exist.

*Air Staff, Statistics and OCAC,
Statistics*

The reorganizations of the air arm which occurred between June 1941 and March 1942 tended to strengthen the hierarchal nature of the relationship of its statistical agencies. When the Plans Division was reorganized as the Air Staff on 20 June 1941, the Statistics Section remained as an important unit.⁴⁴ As Air Staff, Statistics, the section now possessed a preeminence in the organizational set-up that it had not had when it was simply part of the Plans Division. However, after the reorganization there continued to exist a Plans Section, directly under the Executive, which, as we shall presently see, was to play a part in the development of statistical control.

The making of studies relative to the status of AAF personnel and materiel became the principal activity of Air Staff, Statistics. The next most considerable part of its work consisted of analyses of production and studies of the allocation of aircraft and of training rates of pilots and technicians. The section also drew up tables and charts showing AAF plans and progress, wall charts and maps for display in General Arnold's anteroom, and the War Room; and maintained the statistical handbooks known as "General Arnold's Handbook" and "General Spaatz's Handbook."⁴⁵ Thus the Section was making a tentative start toward the establishment of statistical control in the air arm, --i.e., not merely the administrative centralization of statistical reporting, but also of planning and directing a strategic program upon the basis of statistical knowledge.

At first it did not appear that the reorganization of June 1941 would alter the relationship which had been established between Air Staff, Statistics and the Research and Statistics Section when the former was part of the Plans Division of the OCAC. "It is believed," the Chief of Air Staff wrote to the Chief of the Administrative Division early in August, "that close coordination between our Statistics Section and your Research and Statistics Section will provide the means for accomplishing many important and necessary projects." He referred particularly to machine-tabulation projects.⁴⁶ The Research and Statistics Section, however, was then engaged in tabulating flight records, the volume of which had become so great as to require the whole time of nearly all of the personnel and all the equipment of its tabulating unit. An investigation of the situation caused Lt. Col. B. E. Gates

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of the Plans Section, OCAC, to recommend that the project be dropped on the grounds that, in view of the other urgent needs of the air forces, the use of all its personnel and equipment for such a purpose was unjustified. The flight record project was abandoned in the latter part of August.⁴⁷ Beyond this, a directive of 29 August gave the Plans Section, OCAC, authority to "exercise general supervision over the development and maintenance of statistical, budgetary and other data required for analysis and planning of the various Air Corps programs and activities."⁴⁸ Thus the functions, personnel, and equipment of the Research and Statistics Section were virtually removed from the jurisdiction of the Administrative Division and placed under that of the Plans Section.

In October Lt. Col. Gates of the Plans Section, OCAC, Capt. Farrar and C. B. Thornton of the Air Staff Statistics Section, and James Sinnegen, detailed as consultant from the Bureau of the Budget to the Executive Office, OCAC, reached an agreement whereby the Air Staff Statistics Section would study the entire question of statistical controls and coordinate and give technical guidance to all AAF statistical projects, while all operational statistical functions would be delegated to a Statistics Sub-Section to be set up under the Plans Section, OCAC.⁴⁹ By this agreement the collection and compilation of the primary data and the furnishing of any special statistical data required by the Chief of the Air Corps were to be the function of the OCAC Statistics Section, whereas the Air Staff Statistics Section would be responsible for regular and special studies based on these data and furnished by it to the various Air Staff Divisions and the Headquarters.⁵⁰

This working arrangement was recognized in a memorandum by Brig. Gen. Carl A. Spaatz, of Air Staff, which outlined the responsibility of the various organizations of the AAF for preparing a study on the 84-group program. "The Statistics Section of the Air Staff," the memorandum read, "will furnish consultation service to all Divisions of the Air Staff and will conduct such specialized projects related to this study as may be required, with the assistance of the Statistics Section, OCAC."⁵¹

For several months following the issuance of the directive of 29 August--which, it will be recalled, had given to the Plans Section, OCAC, supervision over statistical matters in the OCAC--the Research and Statistics Section had continued to exist, at least nominally. But it functioned rather lamely, since a portion of its personnel was detailed elsewhere in the OCAC and the Air Staff.⁵² About the middle of October all its mechanical equipment and virtually all of its remaining personnel were transferred to Plans, OCAC. Technically it did not go out of existence until the next reorganization of the OCAC, in December 1941.⁵³

This December reorganization created a new unit--Statistics, OCAC.⁵⁴ Personnel and equipment were obtained from the now defunct Plans, OCAC. Although it had been intended to provide all Air Corps statistics except those on materiel--which would be furnished by the Materiel Division with the latter's own machine-tabulating unit at Wright Field--in actuality the projects upon which the section was at this time engaged were personnel projects almost exclusively. Indeed, the tabulation of personnel statistics for the expanded training program had been conceded a certain priority back in September when a compre-

hensive plan of statistical projects was under consideration by Air Staff, Statistics, in cooperation with Plans, OCAC, and the Research and Statistics Section.⁵⁵ The flight record project, which had been suspended on 21 August, was never resumed in its entirety by Statistics, OCAC.⁵⁶ Even working nights and Sundays, the section was hampered by a shortage of equipment and personnel. A requisition for more of both was turned down by the War Department until additional funds should have been made available for Air Corps purchases and rental.⁵⁷

*Development of Statistical Control,
7 December 1941 to 9 March 1942*

The advent of war made it more imperative than ever that the AAF adapt some standard and continuing system of accurate statistical reporting to facilitate the efficient administrative control of the entire AAF program. It was not that the AAF had no reports. On the contrary, there were too many--about 2,500 are estimated to have been required at this time from field organizations on a recurring basis, and they were unrelated and not infrequently duplicative.⁵⁸ Until an effective system of reporting could be instituted, Air Staff planning had to be based upon estimates which had often only the slightest factual foundation.⁵⁹ And efficient statistical control had to await administrative reorganization of the OCAC which was carried through by Maj. Gen. W. R. Weaver, Acting Chief of the Air Corps, on 24 December 1941, and which split the functions of the former Plans Section between the Assistant Executive for Administrative Planning and Coordination and the Assistant Executive for Technical Planning and Coordination.⁶⁰ Although the Assistant Executive for Technical Planning

and Coordination received and kept on file statistical data on aircraft, he did not actually operate a statistical section.⁶¹ The former Statistics Sub-section of the Plans Section, OCAC, under MacCatherine, was placed entirely in the office of the Assistant Executive for Administrative Planning and Coordination, under Lt. Col. Gates, formerly head of the Plans Section.⁶²

Despite certain appearances to the contrary, the tendency in OCAC statistics between the reorganizations of 24 December 1941 and 9 March 1942 was toward the centralization of administrative control. Early in February there was established in the Executive Office of the OCAC a Control Room "for the purpose of exercising control, both of an administrative and technical nature, over projects and directives, originating either in the Office of the Chief of the Air Corps, or in higher authority requiring action by the Office of the Chief of the Air Corps."⁶³ Moreover, all statistical reports prepared in the OCAC or submitted to the OCAC by field organizations were to be coordinated in the Control Room, and no important statistical data were to be released except through this agency. It was intended that coordination in the Control Room should effect reforms in statistical reporting: the elimination of duplicate or obsolete reports; the issuance of reports on a standard time-schedule; complete coverage of All OCAC activities; and the establishment of a clearing-house for all requests for statistical information pertaining to the OCAC. The direction of the Control Room was vested in the Assistant Executive for Administrative Planning and Coordination, and all offices within the OCAC were instructed to appoint liaison personnel to deal with him on statistical matters.⁶⁴

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The directive establishing the Control Room did not give the OCAC Statistics Section jurisdiction over statistical functions at any echelons below the highest, except in the cases where the section itself provided the operating services. Yet, at this time, Statistics, OCAC, was reaching down to the operating level, in an attempt to establish control over machine tabulation. Of a proposal to install International Business Machine equipment in certain installations of the Air Corps Technical Training Command, MacCatherine, Chief of the Section, observed: "No machine unit of this character should be installed in any activity without first insuring that the control of the unit and the reporting system are *directed* and *controlled* by the Central Statistical Branch in Washington."⁶⁵ The same determination is revealed in another statement written by MacCatherine about the same time, entitled "Functional Responsibilities of the Assistant Executive for Administrative Planning and Coordination, Statistics Section." Here he definitely asserted that the Statistics Section was responsible for the "supervision and operation" of all machine tabulation installations required by the Army Air Forces.⁶⁶

MacCatherine's concept of the function of the Statistics Section was sure to arouse opposition, for at this time the principal machine installation in the AAF, aside from the unit in the Statistics Section itself, was the unit at Wright Field under the Assistant for Procurement Services (formerly the Materiel Division). The Assistant for Procurement Services objected strenuously to the proposition that the Materiel Division statistical organization should be brought under the supervision of any agency outside the division. The tabulating equipment

belonging to the Materiel Division was essential, he said, to the statistical activities of the Division, and these statistical activities were an integral part of its operation. The Materiel Division could not share with another agency the responsibility for carrying on its own intricate internal functions, and besides, a statistical planning agency without specialized technical proficiency would not be competent to assume such a task. "For higher echelons to take control of and execute in detail the functions of the statistical organization of the Materiel Division," the Assistant for Procurement Services asserted, "would be comparable to the Chief of the Army Air Forces personally taking control of all the Crew Chiefs in the squadron within an operating Air Force."⁶⁷ Nor would he consent to release data on materiel at the request of the Assistant for Administrative Planning and Coordination, unless the necessity for releasing the data appeared to him real.⁶⁸ Thus began a long jurisdictional controversy between the Materiel Division and Statistical Control.

Although the groups in Air Staff Statistics and OCAC Statistics enjoyed the support of Robert M. Lovett, Assistant Secretary of War for Air, and Brig. Gen. Laurence S. Kuter of the War Department General Staff throughout the confused period between entry into war and the reorganization of 9 March,⁶⁹ at the outset Headquarters AAF was not disposed to give these two statistical sections *cartes blanches* in the development of a system of statistical control. Some time before Pearl Harbor, Col. Harvey S. Burwell, who had been one of the first to proclaim the necessity of such a system to govern the training program inaugurated in 1939, was appointed to a special position on

the Air Staff.⁷⁰ The precise nature of his position was not clear, but it soon became clear that Col. Burwell understood that he was expected to set up the statistical control center of the AAF under his personal direction.⁷¹ Meantime, the Bureau of the Budget had requested J. L. Jacobs, consultant management engineer, to assist in making plans for the reorganization of the AAF. Representatives of the Jacobs firm attached themselves, therefore, to the offices of both C. B. Thornton and Colonel Burwell in an advisory capacity, although they appear to have had more to do directly with the projects emanating from the latter than from the former.

There was some discussion between members of the two offices, but no common program was agreed upon. Until at least the end of January 1942 Colonel Burwell was able to have the final word on the institution of as much of the statistical control system as was put into operation in the field. It is sometimes difficult to determine the precise meaning of his proposals; but it seems he envisaged a series of reports from the field covering all activities of the AAF.⁷² His initial emphasis was upon a squadron status report,⁷³ following which he devoted most of his attention to a system of personnel reporting from the field. Apparently he intended to leave materiel reports, for the time being at least, in the hands of the Materiel Division and of other Air Staff agencies, whence they would be obtained by a liaison officer.⁷⁴

Colonel Burwell's personnel reporting system called for the establishment of field units termed Replacement Control Depots at the headquarters of each of the four continental air forces, the Gulf Coast, Southeast, and West Coast

Training Centers, the Technical Training Command, and the Hawaiian and Caribbean Departmental Air Forces.⁷⁵ These Depots were the direct progenitors of the later Statistical Control Units. They were to process and transmit to Headquarters AAF the basic personnel reporting forms prepared by all AAF squadrons. These would be used to direct the flow of personnel by military occupational specialties from the replacement training centers and service schools to Air Force units.⁷⁶ In Colonel Burwell's conception they would also be used to direct the physical flow of personnel to units within their commands. This last aspect of the plan was strongly disapproved of by the Thornton group.⁷⁷

Colonel Burwell's further design-- in which the Thornton group concurred -- was that the Depots and other units down through the squadron should be staffed by trained statistical officers. As a matter of fact, Colonel Burwell had assembled a group of Branch Immaterial officers for work in the field long before there was any work for them to do; some of these were assigned to the Replacement Control Depots when the latter were set up, about the beginning of March.⁷⁸ The position of statistical officer was authorized by an AAF Regulation of 2 February 1942, which specified that a "suitably qualified, non-pilot officer, selected and especially trained by this headquarters," was to be assigned to each squadron and to the headquarters of each higher echelon. He was to be responsible directly to the unit commander, with the restriction that he be assigned no other duty interfering with his primary duty of statistical reporting.⁷⁹ Negotiations for the establishment at Harvard University of a school to train such officers

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were begun by Colonel Burwell. The actual decision to set up the school at this location was, however, made by Colonel Burwell's successors.*

Machine Records Units Under The Adjutant General

A portion of the personnel functions later performed by the Statistical Control Units were patterned after the activities of the Machine Records Units. These MRU's, under the jurisdiction of The Adjutant General, are important in the history of AAF statistics as the earliest providers of essential services.

In the summer of 1940, about the time that the Development Section of the Inspection Division was authorized to install machine-tabulating equipment, there was a movement to install it generally throughout the War Department for the personnel records of all branches of the service.⁸⁰ In October establishment of Machine Records Units was authorized at the Headquarters of the several Corps Area Commands in continental United States and in the overseas departments, with additional subsidiary units where the military population was dense enough to warrant them. A unit was also assigned to the GHQ Air Force. The units established at Corps Area Headquarters to which but one unit was allotted were to serve all tactical units, Corps Area posts and installations, exempted stations, and Air Corps units within the Corps Area. Where subsidiary Machine Records Units were authorized, their location was to be determined by the Corps Area Commander concerned. In time of war, Machine Records Units were to be established in combat theaters. The purposes of these installations were: first, to furnish the organizations they served directly with administrative data,

*See below, p. 23 ff.

reports, and records for local needs; and second, to transmit rosters, strength returns, casualty reports, and unit historical records to the headquarters of higher echelons and the War Department.⁸¹

Thus the services provided the air arm by The Adjutant General's Machine Records Units--except for the GHQ Air Force installation--were rendered on a geographical basis. There appears to have been no objection to this in the air forces at the time. Indeed, the Chief of the Inspection Division seemed definitely to favor this arrangement or at least the concept of the decentralization of recording functions which was involved therein.⁸² Nor is it apparent that any objection existed at this time to the fact that the various organizations of the OCAC (except the GHQ Air Force, which was then under the OCAC) would not enjoy the exclusive services of any of the Machine Records Units. Plans were under way in the summer and autumn of 1940 for the meshing of the personnel reporting systems to be developed with machine tabulation under the auspices of The Adjutant General and the OCAC respectively.⁸³ As has already been indicated,* the OCAC did not turn its attention to the machine tabulation of personnel records until a year later. At that time the OCAC discovered that some of the information desired from The Adjutant General's Office was in arrears for lack of machine time, while other desired information was not kept on The Adjutant General's records at all.⁸⁴

Meantime, experiments were being made with another method. The services of the Machine Records Unit which had been established at Bolling Field for the GHQ Air Force (after 20 June 1941 the Air Force Combat Command) were extended to take in

*See above, p. 8 ff.

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the requirements of the First Air Force on a command rather than a geographical basis. By November of 1941, if not earlier, both The Adjutant General and Headquarters AAF had become convinced that more efficient service was provided when all organizations of an air force were serviced by a single Machine Records Unit than when serviced separately by several MRU's as in the Corps Area arrangement. On other points, however, The Adjutant General and Headquarters AAF had differing ideas. A plan of The Adjutant General envisaged only the servicing of AFCC stations and units within their jurisdictional area, whereas a plan being worked out at Headquarters AAF called for the servicing of OCAC stations or units by the same installations which did the work for the AFCC.⁸⁵ The Adjutant General's plan was the one authorized in December 1941. It went into operation slowly. By May 1942 only one additional unit to service a single air force had been installed--the one at Tampa, Florida, servicing the Third Air Force.⁸⁶

Thus, immediately before the reorganization of 9 March 1942, three different kinds of field reporting units were servicing AAF organizations. First were the Replacement Control Depots located in the headquarters of the Air Forces, the Training Centers, and the Technical Training Command preparing AAF forms exclusively and operating on a command basis under the sole jurisdiction of the AAF. They had no mechanical facilities except teletypewriter equipment. Secondly, there were The Adjutant General's Machine Records Units in the Corps Area Commands, both at Headquarters and at subsidiary units. Although these were not under the jurisdiction of the AAF and their primary purpose was to keep the

records required from the field by the office of The Adjutant General, they supplied Headquarters AAF and lower command echelons of the AAF a great deal of data that could not then be otherwise obtained. Finally, there were the Machine Records Units set up or planned in the four air forces. These handled the records of these organizations exclusively, for the use of The Adjutant General's Office as well as of the AAF.

Statistical Control in the Reorganization of 9 March 1942

The reorganization of the AAF which went into effect on 9 March 1942 created a new office--the Directorate of Statistical Control, under the jurisdiction of Management Control. This absorbed both the OCAC Statistics Section and the Statistics Section of the Air Staff. Its stated functions were to conduct "continuous studies" of AAF statistical requirements and devise methods for meeting the latter; to develop and maintain a reporting system which would keep Headquarters offices "continuously" informed on the status of AAF units; to develop and maintain a statistical system for scheduling and summary reporting of personnel recruitment, personnel training, and materiel production; to provide machine tabulation and other statistical services for all subdivisions of the AAF located at Headquarters; and to coordinate the activities of all machine-tabulation installations in the AAF.⁸⁷ It will be noted that the powers conferred herein did not go beyond those actually possessed by the Air Staff-OCAC system on the eve of the reorganization. For the most part they left jurisdictional boundaries undefined.

In the first form of the organization of the Directorate, the division of functional responsibilities repre-

sented a combination rather than a complete consolidation of the former Air Staff Statistics and OCAC Statistics Section.⁸⁸ The names were different, but the same pattern persisted--a pattern which had first begun to emerge a year earlier, when the Statistics Section of the Plans Division entered into a kind of partnership with the Research and Statistics Section of the Administrative Division. In the organization of 9 March the work done by the old Air Staff Statistics Section was assigned to two sections under a Planning Statistics Division. The Planning and Progress Control Section was responsible for the statistical planning which should synchronize all phases of AAF activities; and the Special Projects and Analyses Section would perform analytical work pertaining to both tactical and strategic planning. The work done by the old OCAC Statistics Section was now assigned to four sections: the Personnel, Materiel, and Training and Operations Sections

of the Operating Statistics Division, and the Development of Methods and Procedures Section of the Planning Statistics Division.⁸⁹

Liaison with all other divisions, commands, and sections at Headquarters AAF and with the field was to be performed by liaison officers. A Machine Records and Field Equipment Section was charged with the operation of all machine-tabulation equipment at Headquarters AAF and the coordination and regulation of the work of mechanical units in the field. The training and instruction of statistical officers prior to their assignment in the field was made a responsibility of the Director of Statistical Control.⁹⁰ C. B. Thornton was named as Director of Statistical Control, with M. B. MacCatherine serving as his assistant.⁹¹ Thus, three months after Pearl Harbor, the AAF had been provided with the nucleus of both a Headquarters and a field organization for the establishment of statistical control.

Chapter 2

INTERNAL DEVELOPMENTS IN ORGANIZATION
AND FUNCTIONS

THE MANNER in which the Directorate of Statistical Control was organized upon its establishment in March 1942 was intended to parallel the organizational pattern of the Air Staff. The Planning and Progress Control Section and the Special Projects and Analyses Section were designed to serve the statistical requirements of AC/AS, Plans; the Personnel, Materiel, and Training and Operations Sections paralleled A-1, A-3, and A-4 of the Air Staff. This attempt to match division for division was abandoned within a year. The organization of the Air Staff was changed materially in March 1943, but the fundamental organization of Statistical Control persisted with but slight changes until 1945. The organization and the distribution of functions were modified simply by the accretion of activities in various branches and by the splitting of both functions and branches. This was so not by design, but because the pressure of routine business left little time for the solution of organizational problems, because key personnel possessed peculiar qualifications, and because it was very difficult to draw a line between certain administrative functions.

The manner in which the Directorate was organized in March 1942 and the minor nature of the subsequent changes resulted in some duplication of effort in handling primary data. For example, all aircraft reports for the Zone of Interior were processed by the Materiel Statistics (later termed Aircraft

and Equipment) Branch, while reports on aircraft in theaters of operations were handled in Training and Operations. In order to maintain the continuity of the continental and overseas inventories, there had to be a continuous reconciliation of the ledgers kept in the two branches. After September 1942 statistics relating to naval and foreign aircraft were handled in neither Materiel Statistics nor Training and Operations, but in the Foreign Statistics Branch, which originated as an offshoot of Materiel Statistics. Early in 1943 Foreign Statistics undertook the collection and processing of naval and foreign personnel statistics as well. The duplication of activity in the case of the Foreign Statistics Branch lay in the fact that the reports prepared by Foreign Statistics generally included data on AAF aircraft and personnel which were simply put together from the reports of other branches.

In the spring of 1945, as a result of a survey Management Control had conducted in the summer and fall of 1944, the Training and Operations (or, as it had but recently been renamed, the Theaters and Training) Branch was dissolved. In general, its function had been to account for the flow of combat crews and aircraft to the theaters from the Zone of Interior. The Management Control survey had concluded that economy of operations would result from dividing the component parts of this function between the Personnel Statistics and the Aircraft and Equipment Branches. The former

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received responsibility for all unit training reports and the latter responsibility for all reports on overseas aircraft and combat crews.

From its inception the Statistical Control Division had been expected by its advocates to perform analytical functions as well as compile primary data. This determination is reflected in the distinction made in the March 1942 organization between "planning" and "operating" branches. At the outset analytical work necessarily lagged until basic data had been accumulated. Whatever intention there may have been originally to keep the analytical and operating branches entirely separate broke down when one of the original analytical branches, the Special Projects and Analyses Section (renamed successively the Combat Analysis and Combat Operations Branch), found it necessary to procure its own data. This branch developed and policed the standard combat operations report, Form 34.

The machine services function of the Statistical Control Division was performed by the Machine Services Branch, which received and processed such data as could be reduced to punch-card form not only for other branches of the division but for other offices at Headquarters AAF. Technical supervision over field reporting procedures insofar as mechanical equipment was concerned was likewise in the province of the Machine Services Branch, as was the preparation of technical manuals for use by the Statistical Control Units' machine records sections. These manuals, which prescribed electrical accounting machine techniques, were as vital to the accuracy of statistical reports as the basic directives, since they controlled the use of summarization purposes made for the basic reports.

Continuing attempts were made to create a branch which would carry on field liaison in functions other than mechanical reporting without marked success. The first attempt occurred in December 1942 when the Standards and Procedures Section was renamed the Field Coordination Section, with both reports survey and field liaison functions. In June 1943 the two functions were given to separate branches. An attempt was made then and again at the time of the 1945 reorganization, when the branch became known as Field Services, to emphasize its role as a kind of monitor and coordinator of all relations between the division and the field.*

In March 1942 the notion had been held that the designing of the statistical control reporting system, as well as the reports survey, should be the specific responsibility of the Development of Methods and Procedures Section. As time passed, reports survey developed into a full-fledged reports control function, which was entrusted to the successor of the Development of Methods and Procedures Section, designated in August 1944 as the Reports Control Branch. Principal responsibility for designing the basic-data reports, however, remained with the branches most directly concerned.

As the Directorate of Statistical Control was set up in March 1942, executive functions and general over-all supervision of operations were all concentrated in the office of the Assistant Director. In the course of that year, because of the great increase in the workload, operating supervision was divided between two persons who became known as the Deputy Chief for

*See below, pp. 24-25, 39, for additional information on the functions of the Field Services Branch.

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Personnel Statistics and Technical Services and the Deputy Chief for Aircraft and Operations.

During the summer of 1945 the Office of Management Control was dissolved; on 27 June the Statistical Control Division was transferred in its entirety to the Office of the Secretary of Air Staff. The internal organization of the agency remained unchanged, and it was not until 1 Au-

gust that the name Office of Statistical Control replaced Statistical Control Division. As the workload became stabilized during 1944, the expansion of personnel in the Division reached a peak and began to level off. The increase in the authorized strength of the Division from 9 March 1942 through 30 September 1945 is shown in the following table:²

| Effective Date | Off. | Strength Enlisted | Civ. | Total | Change from Previous Period |
|------------------------|------|----------------------|------|-------|--------------------------------|
| 9 March 1942..... | 1 | | 76 | 77 | |
| 31 December 1942..... | 66 | 116 | 211 | 393 | + 316 |
| 30 June 1943..... | 77 | 193 | 275 | 545 | + 152 |
| 31 December 1943..... | 100 | 204 | 273 | 577 | + 32 |
| 30 June 1944..... | 110 | 259 | 278 | 647 | + 70 |
| 31 December 1944..... | 114 | 261 | 264 | 639 | - 8 |
| 30 June 1945.. | 120 | 249 | 252 | 621 | - 18 |
| 30 September 1945..... | 88 | 183 | 221 | 492 | - 129 |

Relation of the Statistical Control Division to Other Headquarters Agencies

From its inception the Statistical Control Division occupied a fortunate position at Headquarters AAF. As a component of the Office of Management Control--a separate staff agency--it escaped the handicaps imposed upon offices operating as one of the usual staff divisions. Moreover, it enjoyed a real degree of autonomy under Management Control. The Division generally took the lead in the development of the statistical control system with Management Control contributing its support. Besides its favorable location at Headquarters, another factor important in the success which Statistical Control achieved was the support given by the Assistant Secretary of War for Air, Robert A. Lovett, who was from the

start sympathetic to the concepts embodied in the statistical control system.

When the Directorate was established it was not universally understood that it was the statistical agency for all of Headquarters AAF. Early in April 1942, for example, the Deputy Chief of Air Staff forwarded to the Director of Management Control a memorandum suggesting that a central agency charged with maintaining a complete statistical record of all air activity might be established in G-2, A-2, or the "Statistical Services under General Ayres."³ Quite naturally the Director of Statistical Control protested that the functions outlined were already assigned to his Directorate.⁴ About the same time the Materiel Command proposed to set up in its Head-

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quarters, which were then located at Washington, a Division of Plans, Statistics, and Analysis, which would be concerned with production statistics, program planning, and progress reporting.* The Director of Statistical Control opposed his plans also.⁵ Management Control, in consenting to an allotment of personnel, stipulated that the proposed agency confine itself to the statistics of production and procurement, and asserted that the summary reporting of production statistics was a function of the Directorate of Statistical Control, which would secure the figures from the Division of Plans, Statistics, and Analysis.⁶ When the Assistant Chief of Air Staff, Materiel, Maintenance, and Distribution (AC/AS, MM&D) was established in March 1943, and Headquarters Materiel Command moved to Wright Field, the Division of Plans, Statistics, and Analysis remained in Washington. As a part of the new staff office, it supported the claims of the Materiel Command to the autonomy of its own statistical organization as against affiliation of the latter with the Statistical Control System.[†]

The first official directive closely defining the authority of the Directorate of Statistical Control in respect to other organizations in Headquarters AAF was a regulation of 14 April 1942. This conferred upon the Directorate responsibility for clearing all orders for reports from AAF units directly under the command of the Commanding General, AAF. Exceptions

*This project amounted to a resuscitation of the Statistical Section which had existed at Headquarters, Materiel Div. prior to 9 March 1942, and which had become moribund at that time.

†The continuing controversy between the Materiel Command and Statistical Control will be discussed more fully in the following chapter.

were made in the case of reports required by higher echelons from subordinate echelons within the same command or division and reports procured by intelligence agencies through ordinary intelligence channels. In other words, the Directorate of Statistical Control was established as a reports clearing-house at the highest echelon of the AAF and at the point of contact between AAF organizations and other agencies outside the AAF. Statistical Control was to clear requests from the AAF to other agencies of the War Department, as well as from the War Department to the AAF.⁷ A directive of June 1943 added that all reports prepared for the Commanding General, AAF, for the Chief of Staff, or for higher or parallel authority would be "cleared through, checked with, and coordinated by" the Statistical Control Division.⁸ Subsequent directives made the operation of this function more effective, while tying it up with the establishment of a reports control system throughout the AAF* and extending the operation of the division's reports-control authority over the reports demanded by offices at Headquarters AAF from overseas commands and air forces.⁹

Statistical Control, however, created its unique position at Headquarters AAF not so much upon its function as a clearing-house for requests for information, as upon the technical and informational services by which it made itself indispensable to staff offices. For example, it assisted the Directorate of Flying Safety in setting up machine records and exchanged with that office certain types of data relative to accident statistics.¹⁰ The Statistical Control Division served the Office

*See below, p. 87 ff.

of The Air Surgeon in a similar fashion.¹¹ Early in 1944 Organizational Planning proposed to reassign to Statistical Control all statistical functions carried on in the Office Of the Air Surgeon, but this recommendation was not carried out.¹²

In September 1943 the Machine Records Branch of the Statistical Control Division began the processing to International Business Machine (IBM) punch cards of weather data which was world-wide in extent and which dated back in some cases as far as forty years. By the end of 1944 some 32,000,000 cards had been punched. Furthermore, in collaboration with the Weather Division, the Branch made special climatological studies for use in planning combat operations.¹³

The Statistical Control Division did not respond to every request for technical assistance. A heavy current workload sometimes caused it to refuse a request such as the one of the Contract Termination Branch, Resources Division, MM&D, that the Machine Records Branch compile monthly reports of AAF contract terminations.¹⁴ Even though the working relations between MM&D and Statistical Control were far from smooth there seems little or no reason to doubt that the workload was the real cause of this refusal.

More important still to the technical services were the informational and analytical services rendered by Statistical Control to Headquarters offices. Every year the number of recurring and special reports put out by the Division and replies to requests for "spot" information multiplied with extraordinary rapidity. In June 1942 there were about thirty-five recurring reports. In September 1944 there were about 400.¹⁵ The problem, indeed, became one of limiting the

number and distribution of the reports, both on account of the workload involved in their preparation and for security reasons. Under pressure from AC/AS, Intelligence, which was charged with supervising the distribution of the Statistical Control reports which bore a high classification,¹⁶ Statistical Control in October 1943 started circulating periodically to all recipients of its reports a questionnaire relating to the usefulness and necessity of the reports. Most of the recipients regarded it as a nuisance.¹⁷

In the latter months of 1943 and throughout 1944 there were two noteworthy developments in the informational and analytical services performed by the Statistical Control Division. One was the decentralization of operating statistics to air force and command level; the other was an emphasis upon analytical studies conducted with reference to program planning and control in the Air Staff. Almost from the start the standard reports of the statistical control system had been designed so as to provide Headquarters AAF with information in considerable detail. The smallest operating units--the squadrons--reported separately, and all the data they furnished was forwarded to Washington. Headquarters AAF desired this because at that time operations were directed to a great extent by Washington.

This tendency toward centralization diminished after the March 1943 reorganization, in which the Directorates were abolished, and operational detail was decentralized to the field.¹⁸ In February 1943 when Statistical Control requested an allocation of additional personnel, Organizational Planning proposed that a survey be conducted to determine whether the increase

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were warranted by the present or probable future workload. "With the organization of Statistical Control units," wrote a representative of the Organizational Planning staff, "it would appear that an increasing proportion of the statistical data originating in the lower echelons could be consolidated in the field and thereby substantially reduce the number of detailed reports handled in Headquarters."¹⁹ The survey, which was conducted by the Manpower Division of Management Control in the late spring of 1943, resulted in the establishment of a personnel ceiling which was somewhat lower than the Division had estimated it would require.²⁰ The tendency toward the decentralization of statistical detail to the field began in the summer of 1943 with the revision of the standard personnel reports, and during 1944 it was more or less evident also in other reporting categories.* In aircraft reporting decentralization did not proceed nearly fast enough to suit Organizational Planning, which in 1944 vigorously questioned the utility for Headquarters Form 110.²¹

Meanwhile, an increasing concern over the problem of program planning and control had developed at Headquarters AAF. The problem had several angles, but the chief difficulty lay in the fact that there was no master-plan--no kind of balance had been worked out between the components of the AAF program. At bottom this was a "political" difficulty, which had been aggravated by the rapid expansion of the activities of the AAF. A program planning unit had been established in the office of the Chief of the Air Staff in March 1942, but its authority had been protested by certain of the staff divisions. The unit was demoted successively to the level of AC/AS,

*See below, p 25 ff.

Program Planning (September 1942), and then to the position of a branch of the Allocations and Programs Division, OC&R (March 1943).²²

Meanwhile, Statistical Control was examining the AAF's program for the allotment of aircraft. Early in September 1942 it had been requested to make a study of aircraft requirements in connection with what were known as Programs "A" and "B,"* The studies were completed with the assistance of the directorates, and were used as a framework for the original allocations and for modifications in production schedules which had been previously proposed or estimated. Although a check on the actual working out of these programs was from time to time contemplated, no formal study comparing original plans with what actually occurred was ever made.²³

Another study made by Statistical Control also effected the allocation of aircraft, this time between the overseas areas and the training facilities of the Zone of Interior. Early in 1943 concern developed over what appeared to be an inadequate proportion of AAF aircraft in overseas theaters. Part of the trouble seems to have centered in the manner in which the "production" for each month was reported. When it was shown that 66 per cent of the modern usable airplanes of the AAF were either overseas or on the way, that production of pilots was falling behind the production of planes, and that the planes were essential to the pilot- and crew-training programs in this country, the pressure to get a larger percentage of aircraft overseas lessened.²⁴

On 9 June 1943 Statistical Control wrote to AC/AS, Plans, that the basic

*Program "A" envisioned a strategic offensive against Germany and a strategic defensive against Japan; Program "B" included strategic offensives in both theaters and an air offensive against Germany

problem of the AAF was program planning and control--the determination of the ultimate strength of the air forces, the time at which that strength should be reached, and what the monthly requirements would be in terms of students, instructors, and airplanes. Only after these things had been decided, would it be possible to obtain reasonable estimates of gasoline, maintenance, and shipping requirements, and to schedule the whole program accurately. Statistical Control declared that it would be glad to cooperate with AC/AS, Plans, in undertaking such a study.²⁵ A few weeks later General Kuter, to whom had been delegated the responsibility for exercising control over program planning requested from AC/AS, Training, certain statistics relative to the training program. Dissatisfied with the answer, he inquired of Statistical Control "Can you do any better than Training has been able to do on providing the desired data?" Statistical Control responded with a draft study of the heavy bombardment program, and offered again to help show how a new program for the entire AAF might be set up.²⁶

The offer was accepted in effect. Early in September 1943 Statistical Control produced a study which was a compound of a series of balance sheets indicating the present status of and requirements for several major phases of the AAF program.²⁷

This was only the beginning of a continuing series of program control studies made by Statistical Control. Among the more extensive projects undertaken in the following months were the detailed studies made in September and October 1943 in connection with the Bradley Plan for the United Kingdom according to which 125,000 Air Force personnel were selected and shipped to that theater.²⁸ Another personnel project

was the development of the War Department Troop Basis as an overall control document. The idea for this originated about October 1943 with Maj. R. P. Crenshaw, then Chief of the Personnel Statistics Branch of Statistical Control and later of SARO, the War Department statistical agency established in 1944 to handle Troop Basis data. The final development of the War Department Troop Basis, which brought Air, Ground, and Service Forces reporting into phase, was effected by a War Department Committee on the Troop Basis which was established in the spring of 1944 and which included Colonel H. C. Wendler as the representative of the Statistical Control Division.²⁹

Certain figures which had been compiled by the Combat Analysis Branch on the expenditure rates for bombs and ammunition of various types of aircraft, and which tied in with data furnished by ordnance officers of overseas air forces, by the Procurement Review Board, and by the Combined Chiefs of Staff, led the Air Ordnance Officer, AC/AS, MM&D, to think that the current basis for the procurement of ammunition items should be revised. At his request, made in September 1943, the Combat Analysis Branch undertook a comprehensive rate study on ammunition expenditure by active war theaters.³⁰ This project resulted in the cancellation of over three billion dollars' worth of existing contracts and scheduled requirements.³¹ The Air Ordnance Officer afterward continued to relate procurement policies to experience studies conducted by Statistical Control.³²

Late in the year 1943 the Division began preparing estimates of projected flying-time for continental United States; in 1944 it extended them to overseas theaters. These were widely used by Headquarters offices and the Training Command to

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determine requirements for the training program, for maintenance and repair facilities, for gasoline and oil, and for some types of equipment.³³

When the Statistical Control Division undertook to draw up the first over-all AAF balance sheets in September 1943, it also assumed responsibility for the maintenance of the AAF Conference Room used by the Air Staff and other staff groups. Here it set up presentations of the status of the principal components of the AAF program. At first these graphs and charts were not taken too seriously by the conferees. By the latter part of the year 1944, however, in consequence of a greater disposition on the part of the Air Staff to accept the authority of the data and because of an improvement in the presentations themselves, they were being used for reference in staff conferences.³⁴

Despite directives from higher authority, the original program study of September 1943 was not taken up immediately by the several divisions of the Air Staff, which continued to go their separate ways with regard to program planning. The Statistical Control Division thereupon assumed the function of bringing their individual programs into balance. For instance, it advised Assistant Chief of Air Staff, Operations, Commitments and Requirements (OC&R) in November 1943 that if training plans as of that date were adhered to, there would soon be an excess of pilots.³⁵ No other office at Headquarters AAF was effectively performing this very necessary function. In stepping into the breach, Statistical Control aroused the resentment of the Air Staff divisions. It was decided, therefore, that another office should be created to serve as coordinator of the AAF program. The Programs Division of OC&R, despite the general

implication of its name, had been concerned only with the allocation of personnel. It was now renamed the Troop Basis Division. A new division, the office of the Advisor for Program Control, was set up in OC&R, and in December 1943 Dr. Edmund P. Learned, hitherto the civilian director of the AAF Statistical School, was brought in to head it, while a portion of the personnel was recruited from the Statistical Control Division. At the same time, Dr. Learned was given the title and function of Special Consultant to the Commanding General, AAF, for Program Control.³⁶

During the latter part of the war the broad objectives of program planning were laid down by AC/AS, Plans. It was the function of the other staff divisions, in conjunction with the Advisor for Program Control to determine how much of a general plan was feasible in relation to resources, experience, policies, and anticipated conditions. To this operation Statistical Control provided the historical or experience data. Sometimes, on the basis of past records, it offered predictions as to future tendencies. In conjunction with Statistical Control, the Advisor for Program Control continually checked on the fulfillment of the program, issuing monthly status charts.³⁷

One of the chief contributions which Statistical Control made to AAF program planning and control was to persuade the Air Staff to use experience data, especially data from theaters of operations, as one of the principal bases of future calculations.³⁸ We have seen an instance of this in the case of air ordnance requirements. However, in some instances the Statistical Control Division studies were not utilized as readily and fully as they should have been because the division was a fact-finding and

analytical agency without operating planning responsibilities and because "many people in operating positions [felt] that suggestions should not come from an outside agency not charged with that responsibility."³⁹ Naturally, on some occasions friction developed, but the cordial and close working relationship between the Program Control office and Statistical Control was not impaired by differences of opinion concerning the goal to be accomplished.

There was some friction between the Statistical Control Division and other staff agencies on matters other than those related to program planning and control. Early in 1943 the Division had a brush with AC/AS, Intelligence, about the use of statistics on combat operations taken from daily operations cables, particularly in the case of a Statistical Control report on the 1942 operations of the RAF Bomber Command and another on Japanese air operations in the Australian theater. Intelligence claimed that in making these reports Statistical Control was trespassing upon an Intelligence function and demanded that in view of the shortage of manpower at Headquarters AAF, the personnel of the Statistical Control Division which had had the time to make the studies in question should be transferred to Intelligence. Statistical Control yielded upon the point of function in this instance.⁴⁰ It then secured, by direct negotiation with Intelligence, a delimitation of the general functions of the two offices in the use of operations cables. Statistical Control was to make studies on matters of "direct fact" after coordinating doubtful evidence with Intelligence, and Intelligence would furnish Statistical Control with current claims against enemy air-

craft extracted from theater cables. These were to be used in bringing Intelligence summaries and Form 34 up to date.⁴¹

In the fall of 1944 when Statistical Control was looking for additional theater information to be used in connection with its own studies of bombing accuracy,⁴² it sought and obtained close coordination with the Joint Target Analysis Group which had been recently set up under Intelligence. The project of evaluating bombing accuracy in the continental training program had been taken over from the Proving Ground Command early in 1944. Studies of bombing accuracy in overseas theaters were added to it. Dr. A. G. Clark of the National Defense Research Committee (NDRC) was brought into the research staff of the Combat Analysis Branch to work on this project, and members of the Branch participated in various planning conferences on the use of bombing techniques.⁴³

Two other studies made in late 1944 and early 1945 showed that a bombing force at 20,000 feet could do the same damage as six times that force operating at 31,000 feet, and that when all factors and savings were considered, the B-29 was about 10 times as effective a weapon as the B-17. The raids continued to be made at the higher altitude, however, but the second served to place emphasis on the use of VHB aircraft.⁴⁴

By the end of the war, the position of the Statistical Control Division at Headquarters AAF was unquestionably strong. The two following chapters will show how the Statistical Control System was established and consolidated in the commands and air forces, both in the continental United States and overseas.

Chapter 3

**ESTABLISHMENT AND OPERATION OF STATISTICAL CONTROL
IN THE ZONE OF THE INTERIOR**

*Problems of Technical Supervision in
the Statistical Control System*

The command principle which governed the relationship of the components of the statistical control system to their respective headquarters was important in the reporting process because it helped secure the compliance of AAF organizations with directives, whether these directives emanated from Headquarters AAF or from lower echelons. The idea that a reporting system which would operate vertically through command channels would be far more efficient than one which operated horizontally across them underlay the personnel reporting system which was established during the winter and spring of 1942, at the very time the Statistical Control organization was being set up.¹

The principal factor in the development of a uniform reporting system throughout the AAF was the ability of the Statistical Control Division of Headquarters AAF to exercise technical supervision over the Statistical Control Units, and of the Units to supervise statistical officers at detachments and stations within their reporting jurisdictions.² Although the principle of technical supervision was not explicitly stated in the first directive relating to the function and responsibilities of SCU's,³ it was enunciated in a directive of 15 August 1942:⁴

The Director of Management Control is directed to establish a standardized statistical reporting system for the Headquarters of the Army Air Forces, including the establishment of statisti-

cal control units in the field. Each such field unit will be under the command jurisdiction of the organization in which it is located, but the Director of Management Control will exercise supervision and control over the unit.

All succeeding directives on the functions and responsibilities of SCU's and statistical officers contained an explicit statement of this principle.⁵ While technical supervision was by no means unique with Statistical Control, certain problems incidental to its exercise are worth noting.

The groundwork for the maintenance of technical supervision throughout the statistical control system was laid in the training of statistical officers in the AAF Statistical School at Harvard University. It soon appeared that some Headquarters control over the assignment of these officers was imperative if their specialized training was to be used properly. The first directive dealing with their status, issued in February 1942, had stated simply that no statistical officer would be assigned to a duty which would interfere with his primary duty of collecting basic statistical data.⁶ This had proved ineffective. Throughout 1942 there were many cases of malassignment of statistical personnel by post commanders who appreciated neither the necessity of special training for the incumbents of statistical positions nor the value of statistics. For example, one graduate of the Harvard School, assigned to a sub-depot of the Air Service Command as a statistical

officer was also given additional duties by his commanding officer as adjutant, war bonds officer, civilian personnel training officer, and sub-depot recruiting officer. According to his complaint, he was not permitted to do anything in his statistical capacity. As his commanding officer informed him, "the civilians had all that under control," and for him to exercise his proper functions would simply be a duplication of effort.⁷ Special action was taken by the Statistical Control Division to correct this and similar situations when they were brought to its attention.⁸ More general and far-reaching corrective action was taken with the revision, early in 1943, of the basic regulation.⁹ This revision virtually placed the assignment of statistical officers in the hands of the Statistical Control Division or the Statistical Control Units, depending on the circumstances.

This control over the assignment of personnel had other uses than the mere prevention of malassignment. Statistical officers, possessing as they did a comparatively high general level of intelligence and training, would have been peculiarly liable to assignment to other than statistical positions where their qualifications were desired. Toward the close of the year 1943, when the need for specialists in contract termination made it necessary to divert officers from various other types of duties, Statistical Control's priority in the matter of assignment was challenged.¹⁰ However, the Chief of Air Staff, on the basis of a decision of the Assistant Secretary of War for Air, directed that, while contract termination assignments should carry a high priority, statistical officers should not be assigned to contract termination or other non-statistical duties without the specific authorization of the Chief

of Management Control.¹¹ The Statistical Control Division consented to the assignment of a few statistical officers to contract termination duty, but resisted large scale raids upon its personnel.¹²

A problem analagous to that of insuring the assignment of statistical officers to the duties for which they had been trained was that of securing an advantageous location for Statistical Control Units in the headquarters of the commands where they were established. To prevent the SCU from being located on a lower echelon within any of the usual staff sections,¹³ where it would be hampered in communicating with Headquarters AAF and with field statistical officers in the command, and to keep the SCU free from domination of any single staff section and thereby make it possible to provide "proportionate services" to all staff sections,¹⁴ the Directorate of Statistical Control formulated a principle which was inserted in the formal regulation governing the responsibilities of SCU's in the fall of 1942. Here it was stated that "these units are administratively responsible to the Commanding General or his Chief of Staff only, and will not be under the jurisdiction of any staff section at their command headquarters."¹⁵ In other words, the Statistical Control Unit would be the equivalent of a staff division at command headquarters.

In 1943 the establishment of Management Control Offices in some commands and air forces threatened to impair the position of the SCU's. The proposal was made that Regulation 20-11 be revised to permit the SCU to be subject to the administrative jurisdiction of the Management Control Officer of the command, who would thus become an authority interposed between the SCU and the commanding general or his chief of

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staff. Eventually the regulation was revised along the lines of a compromise proposed by Organizational Planning, which allowed the SCU's to be subjected to the administrative jurisdiction of only such Management Control Offices as were approved by the Chief of Management Control, Headquarters AAF.¹⁶ This rule was applied in connection with agreements reached between the Statistical Control Division and certain commands, delimiting the sphere of administrative jurisdiction exercised by the latter and the sphere of technical supervision exercised by the former. The arrangement with the Training Command provided, for example, that the Management Control Office of the command would exert no more than routine administrative control over the personnel of the SCU, and that the daily routine operations of the unit, normal contacts of the SCU with other staff offices in the headquarters, and communications on technical matters with the Statistical Control Division and SCU's and statistical officers at lower echelons would be carried on by the top SCU without reference to the Management Control Office.¹⁷ Similarly, Statistical Control agreed to the inclusion of the 15th SCU in the Air Service Command Headquarters Group provided there were no conflict between this arrangement and the usual operations of the SCU.¹⁸ By the close of 1944, the Statistical Control Offices were operating under Management Control Offices not only in the Training Command and the ATSC, but also in the Personnel Distribution Command and the Second and Fourth Air Forces, while in the Third Air Force the SCU was under the Deputy for Administration and Services.¹⁹ An unsuccessful attempt was made in the Second Air Force to put the SCU under the Personnel Division of the Staff.²⁰

While this development was taking place, the substitution of exact manning tables for rigid tables of organization in the authorization of strengths and grades to permanent party organizations in the Zone of Interior also caused some anxiety in Statistical Control. Statistical Control was apprehensive lest the strength of the SCU's be reduced and their identity as parts of the statistical control system be destroyed. The application of exact manning to the SCU's was temporarily deferred,²¹ while Regulation 20-11, which was being revised to take account of the management control offices in the commands and air forces, could be so rephrased as to bring the SCU's under exact manning while safeguarding their strength and their identity in the system. The regulation as eventually published provided that whatever the designation by which the SCU's and detachments were henceforth known, it must include the words "Statistical Control," and that personnel strengths and grades should not be reduced below those formerly authorized in T/O's without the prior approval of the Chief of Management Control.²²

Thus the mechanism by which the statistical control reporting system operated was kept comparatively clear of the trammels that from time to time threatened to obstruct the supervision which the Statistical Control Division exercised throughout the Zone of Interior and which the units exercised within the commands and air forces.

Directives governing the transmission of data from the field to the Statistical Control Division at Headquarters AAF were written by the Division. This was true of formal regulations which covered the "standard" AAF reports as well as the informal directives pertaining to specialized data for which the

requirements changed frequently, as in the case of training reports. Responsibility for the collection and transmission of these data and for improving procedures followed in organizations on the lower echelons was placed upon the SCU's. Delinquency in reporting was most serious during the first year of the statistical control system, when a large proportion of the personnel used therein was comparatively untrained and a good percentage of the reports had to be sent in to SCU's located in commands other than those in which the reporting organizations lay. As these disadvantages disappeared, coverage and accuracy improved. Moreover, devices such as graphs showing the comparative delinquency status of the various SCU's and detachments were resorted to in order to encourage speed and accuracy.²³

For the most part, the monitoring of reports involved problems not of discipline but of keeping the reporting organizations informed about what was expected of them. Direct communication about routine matters between SCU's and statistical officers in the field and between the SCU's and the Division at Washington was early established as a fundamental aspect of technical coordination;²⁴ nevertheless there was some difficulty in getting the principle put into practice at lower echelons. The Administrative Supervisor at Tampa, Florida, reported in January 1943 that statistical officers seemed reluctant to communicate on purely technical problems with their "Statistical Control Officer,"²⁵ and that the three statistical officers at the Warner Robins Depot were quite unaware of the ignorance displayed by personnel under them in filling out Forms 127 and 128.²⁶ The reports of the Supervisor were communicated by the Air

Inspector to the Statistical Control Division, which immediately took remedial action. Some of the SCU's had held occasional meetings with the statistical officers attached to field units under their reporting jurisdiction. The extension of this practice was now encouraged by the Washington office.²⁷ In addition, the Division suggested to several commands that the SCU's be authorized field coordination officers who would travel through the field explaining directives, answering questions, and getting the field viewpoint.²⁸ From this developed the field coordination system used by the SCU's in the continental United States.²⁹

The practice of "indoctrinating" newly assigned statistical officers --that is, giving them several days' initial instruction at the SCU in the reporting problems peculiar to the command or to the subordinate organizations to which they were being assigned--was introduced in the fall of 1942 by the SCU at the Headquarters of the Fourth Air Force. The Statistical Control Division found the system to have much merit and enjoined it upon the other commands and air forces.³⁰ It soon became the general practice. Similarly, enlisted personnel who were preparing reports at the station level were brought to the 7th SCU at Headquarters, West Coast Training Center to be familiarized with the way in which their reports were utilized. The results were said to be "gratifying."³¹

The Statistical Control Division developed two other notable procedures for the exercise of technical supervision. One was the dispatching of members of the faculty of the AAF Statistical School to the several SCU's in the role of special consultants.³² The other was the scheduling of periodic conferences for

the commanding officers of the SCU's and representatives of the Statistical Control Division. The first of these was held at the AAF Statistical School on 15-16 March 1943.³³

The flow of advice was not all in one direction. After the first standard forms were drawn up, no directive relating to reporting procedures was revised without the consensus of the field having first been obtained. The same thing was true of T/O's for SCU's.

In the preceding chapter was described the decentralization of reporting to the field which resulted from the increase of program control activity at Headquarters AAF. How did this development affect relations between the Statistical Control Division and the SCU's? Apparently it had no appreciable effect on the detail of data reported. In the case of subject-matter categories, on the other hand, decentralization apparently created a tendency toward the autonomy of the major field office. This was true at least in the case of the SCO of the Air Technical Service Command (ATSC). While still known as the 15th SCU at Headquarters, Air Service Command, this agency acquired the basic supply-reporting function of the Air Service Command, an activity with which the Statistical Control Division itself had little to do beyond supporting the SCU's assumption of it. Shortly afterwards, the 15th SCU developed the overseas stock balance and parts consumption reporting system, which was to be handled by new overseas SCU's activated in the Air Force Service Commands. Reports were channeled directly to the 15th SCU, completely bypassing the Statistical Control Division at Headquarters AAF. From a jurisdictional standpoint, the Air Force Service Command SCU's were in no sense de-

tachments of the Air Service Command; yet they tended to send their correspondence and reports directly to Patterson Field instead of through the Statistical Control Division of Headquarters AAF. The latter came to fear that the informal relationship which it had built up with the overseas SCU's was being endangered by the appearance of a rival claimant to organizational loyalty. The problem was a delicate one. There was no room for two head offices in one system, yet the Division had no real interest in the data which was being sent to the ATSC.³⁴ For some time, too, the ATSC opposed the inclusion of AAF items of equipment on the 108 report, even though the Division argued that it ought to receive command summaries at least for purposes of planning and program control at Headquarters AAF.³⁵

The ATSC Statistical Control Office was the center of its own little statistical control system located entirely within the Zone of Interior. At the close of the year 1944 this system included one Statistical Control Section for every ATSC area, one for every Procurement District, one for every ATSC Overseas Depot, and one for every ATSC Intransit Depot. A somewhat similar organization existed within the Air Transport Command. The ATC system had expanded into a world-wide organization, with one section for every geographical division of the ATC.³⁶

Yet another statistical control system was to be found in the Training Command, which had been formed in July 1943 by the consolidation of the Flying and Technical Training Commands. At the time of the merger the 8th SCU, which had been servicing Headquarters TTC, was transferred to the headquarters of the new command. The First, Second, and Fourth

Detachments of the 8th SCU were redesignated the 13th, 12th, 14th SCU's respectively, when their commands were redesignated the Eastern, Central, and Western Technical Training Commands. These 12th, 13th, and 14th as well as the 5th, 6th, and 7th SCU's which serviced what were now called the Eastern, Central, and Western Flying Training Commands, were all placed under the jurisdiction of the 8th SCU.³⁷

A statistical control system very like that of the Training Command was created in April 1945 with the assignment of the First, Second, Third, and Fourth Air Forces and the I Troop Carrier Command to the Continental Air Forces. In the latter there was established a Statistical Control Division through which all communications from Headquarters AAF to the Statistical Control Offices of the sub-commands were routed.

None of these last three statistical control systems which had developed because of the differing requirements and organizational structure of the agencies which they served, threatened to become independent of the Division in Washington. On the contrary, the growth of a hierarchal statistical organization in the commands, when not accompanied by a decentralization of certain categories of reporting, tended to facilitate rather than impede the exercise of technical supervision from Headquarters AAF. This fact is illustrated by an episode which occurred early in 1944, when the Headquarters of the Training Command protested against the Statistical Control Division's practice of directing that reporting instructions issued from Washington be transmitted directly to the subordinate reporting units of the Training Command instead of being stopped at the Headquarters SCU at

Fort Worth. Frequently, Headquarters Training Command declared, the directives were not understood by the field, and inaccurate reporting resulted. If the Training Command SCU were permitted to interpret the instructions for the organizations under its reporting jurisdiction, this difficulty would be obviated. Washington agreed to the desired change. Despite the independent tone of the Training Command's protest, the real meaning of this interchange is that an agency intermediate between Washington and the field undertook to secure greater uniformity and accuracy in reporting.³⁸

The Statistical Control Division was anxious from the first to advise the SCU's upon the presentation of statistical material which would be of interest primarily to their respective headquarters.³⁹ With the encouragement of the Air Inspector, a manual entitled "Aids to Graphic Presentation" was distributed about the end of 1944 to all SCU's, and a conference devoted to problems of analysis and presentation was held at the Tactical Center in March 1945 under the auspices of the Division.⁴⁰ At the AAF Statistical School, from its very inception, the problems of analysis and presentation at command level had been stressed.*

Position of the Statistical Control Units as Agencies of the Commands

The first period in the development of the SCU's as command agencies was when they were Replacement Control Depots. Apparently they were originally intended to handle all statistics other than those relating to the installation of the AAF personnel reporting system,⁴¹ and nowhere else. But according to the scheme originally developed by Colonel Burwell, the principal author of the concept of the Replacement

*See below, Ch. VI.

Control Depots, the depots were to be more than statistical agencies; they were also to handle the flow of personnel from the training centers to the units. Within the continental United States, this personnel function of the depots was never clearly worked out. The field was in some confusion about it, and the depots only processed Form 127.⁴²

Meanwhile, at Headquarters AAF the policy in regard to the depots was being revised. The Director of Statistical Control, who had taken office during the headquarters reorganization of 9 March 1942, had never been sympathetic toward combining in one field organization the reporting function and the personnel function. He did not wish to share the supervisory control Statistical Control planned to exercise over the field agencies of its reporting system, nor did he intend that the functions of those agencies be restricted to personnel statistics. On the other hand, the director did not wish to exercise control over the movement of military personnel, which was part of the replacement control depot philosophy: no restrictions were to be placed on the activities of the depots.⁴³

On 16 June 1942 the Replacement Control Depots were renamed Statistical Control Units,⁴⁴ and the first directive stating the functions and responsibilities of SCU's⁴⁵ made no mention of any but statistical functions. No restrictions were stated about the fields in which the SCU's were to operate as service agencies of their commands, but they continued to be associated almost exclusively with personnel reporting and tended to be regarded as adjuncts of the G-1 staff sections, even though they were not under the latter's jurisdiction. It was this

situation in part which led to the promulgation of the rule that SCU's be directly under the jurisdiction of the commanding general and his chief of staff. From the standpoint of the command, the most important of the standard reports then processed by the SCU's was Form 127, which was not only a status report for the benefit of Headquarters AAF, but a requisition and guide for the flow of personnel to and within the command. Although the early installation of the standard equipment reports, Forms 107 and 108, and the daily airplane status and location report, Form 110, undoubtedly helped to broaden the scope of the SCU, these reports were at that time intended primarily to furnish information for Washington. The staff sections other than G-1 continued to employ the services of their own statistical branches rather than those of the SCU. Thus, in 1942 the SCU did not come nearly so close to approximating a universal service agency in its own command headquarters as the Directorate of Statistical Control did at Headquarters AAF.

The SCU's gradually assumed specialized functions in addition to personnel. A few examples will show how gradual the process was, and with what difficulty the units outgrew their character of personnel reporting agencies. The 2d SCU, which had been established originally as the 2d Replacement Control Depot at Fort George Wright, in the Headquarters of the Second Air Force, was transferred to Salt Lake City along with the 18th Replacement Wing, which was the principal agency of the Second Air Force in controlling the flow of personnel. Following the redesignation of the depot as an SCU in June 1942, pressure was exerted from Washington to have the unit moved back to the Headquarters

of the air force. The latter resisted the transfer on the ground that the SCU was an integral and controlling factor in the operation of the 18th Replacement Wing. Compelled finally to accede to the installation of the unit at Headquarters, the Second Air Force left most of the Salt Lake City personnel in the latter location in the character of a branch of the SCU, and set up at Fort George Wright in September 1942 what was actually another branch, though nominally the SCU itself. The original intention was to keep the Fort George Wright organization very small; but in the end it was organized at a fairly good size, with its activities developing about the A-3 Section of the Staff.⁴⁶ Eventually, the personnel statistics branch was reunited with the SCU at Headquarters.

Personnel reports long continued to be the principal function of the 7th SCU at the Headquarters of what became the Western Flying Training Command. As a Replacement Control Depot, the unit had not even been the only statistical agency concerned with personnel matters. There had also been a statistical sub-section in the A-1 Section of the Staff. In July 1942, after the redesignation of the depot as an SCU, the A-1 statistics sub-section was consolidated with the SCU.⁴⁷ Throughout the remainder of 1942 and 1943 the largest part of the work of the SCU continued to be in the field of personnel statistics.⁴⁸ About the middle of the year 1943, however, the executive officer of the SCU began to try to convince other staff sections that the 7th SCU would really be a valuable fact-finding accessory.⁴⁹ In January 1944 the SCU took over from A-3 processing of the majority of the training reports required by Headquarters Flying Training Command and sub-

mitted by the stations in the Western Flying Training Command. This was the initial step in a continuing expansion of operations.⁵⁰

It was not until September 1943 that equipment inventory reporting, the major statistical activity of the Air Service Command, became a function of the 15th SCU, which had been established in the headquarters of the command a year earlier. When, after the lapse of another year, the Statistical Control Office of the ASC became the Statistical Control Office of the ATSC, it took over the responsibility for a number of the reports of the former MC. Even yet, however, not all of the statistical reports prepared in the ATSC relative to its major functional activities came within the province of the SCO.

The scope of the functions, as well as the authority, of the statistical control offices was broadened considerably in 1944 by the institution of a uniform reports control system throughout the commands and air forces. The field had been spared some of the burden of preparing multitudinous reports when in April 1942 the Director of Statistical Control was made responsible for clearing all requests of offices at Headquarters AAF for reports from the field, and all inter-command requests for such reports.⁵¹ But reports requested by commands from organizations under their own command jurisdiction did not need such clearance. A very large part of the "paper-work" burden of field organizations originated right within the headquarters of their own commands. This problem was generally recognized, and various attempts at a solution were made within a number of commands; but the methods adopted to solve it were not uniform nor were the results highly successful. In January 1944 Headquarters AAF

"recommended" to the continental commands and air forces that a clearance system be instituted under the authority of the SCU,⁵² and then two months later made the recommendation mandatory.⁵³ Whatever effect it may have had upon the volume of paper-work in the command, this reports-control system made the statistical control offices the reporting arbiters of their headquarters.

Similarly, as the activities of the statistical control offices expanded, a fear became prevalent in many headquarters that they might exceed their functions as service agencies and meddle in the business of other agencies. Although there was no basis for it in any directive, many statistical officers had come to regard themselves as staff efficiency experts. Many understood that one of the principal purposes of statistical control was the "stimulation of staff action."⁵⁴ The commanding officer of a statistical control office not only collected data, but interpreted them and offered the commanding general advice based upon them. This inevitably led to conflict with other staff agencies, but practically all commanding officers of SCO's attained such a position at their headquarters as enabled them to perform these advisory functions.⁵⁵

Opposition to the Establishment of Statistical Control Units

The first eight Statistical Control Units had been established by War Department order and inherited by Statistical Control. Units installed subsequent to that, however, aroused a certain amount of opposition from the field commands, which at first were less impressed by the fact that the SCU's would be under the administrative or command jurisdiction of their respective headquarters than by the fact that they would operate

under the technical supervision of the Directorate of Statistical Control at Headquarters AAF. Here was a new activity, the practical value of which had yet to be demonstrated and the exercise of whose functions entailed certain limitations upon the authority of the command. Opposition to statistical control was not universal, and it did not exist everywhere in equal strength. But it was great enough to require that the resources of the Directorate of Statistical Control should for at least a year be mobilized behind the effort to extend the system.

Of all AAF units, the Materiel Command resisted the introduction of the statistical control system into its organization the longest and most bitterly. Even before the Directorate of Statistical Control was established, the Materiel Division had opposed the proposition that its statistical agencies were to be subject in any way to the technical supervision of a central directorate of statistical planning. It was not that the Materiel Command was hostile to the installation of a standard statistical reporting system to account for numbers of airplanes, pilots, trained crews, and the like. The Materiel Command appears to have made no objection to the installation of Statistical Control's "standard" 110 report on airplane status and inventory, even though the procurement of these data had formerly been the Materiel Command's own responsibility. But statistics relating to various phases of airplane production were another matter. This had been the business of the Materiel Command for upwards of ten years, and--so the Materiel Command declared--Statistical Control could not possibly be competent to tell it how to run its business. Besides, the Materiel Command was a

powerful organization accustomed to operating with a considerable measure of autonomy, which it did not propose to forego in favor of outside control.

The Directorate of Statistical Control at the beginning of its existence had no such power as the Materiel Command, but it had big ideas for the future. From the first, it took the position that the accomplishment of its stated mission, the installation of a standard statistical reporting system throughout the AAF, depended upon a strong and virtually exclusive statistical organization in the commands and air forces, operating under its own active direction. It showed no disposition to compromise. In April 1942, at the time when the Materiel Command established a Division of Plans, Statistics, and Analysis in its Washington headquarters, the Director of Statistical Control desired the promulgation of a directive ordering all statistical functions carried on in the AAF to be centralized henceforth in his own office.⁵⁶ Finally, in August, Statistical Control secured the publication of a regulation which stated:⁵⁷

The Director of Management Control will assume technical supervision and control over the personnel, equipment and facilities of those portions of the Materiel Command (including the Budget Office, Wright Field), the Air Service Command, and any other command or directorate affected, in which statistical reports of the nature described in paragraph (2) above are being prepared, distributed, or otherwise treated. The Materiel Command, the Air Service Command, or any other command or directorate affected will transfer, reassign, or otherwise dispose of the personnel, equipment, and facilities engaged or used in such statistical work as directed by this Headquarters.

The victory, however, was short-lived. Within three weeks the regulation was superseded by another

which, while requiring any command in which an SCU should be established to make statistical equipment and personnel available to Management Control, did not lay any compulsion upon any command or air force as yet without an SCU to affiliate itself with the statistical control system.⁵⁸ Henceforth the extension of the system among existing commands and air forces had to be based chiefly upon persuasion, and not until 1944 was there a regulation which made compulsory the establishment of SCU's in newly activated commands and air forces.⁵⁹ Not only the establishment of SCU's, but the scope of their activities was affected by the defeat of Statistical Control at the hands of the Materiel Command in 1942. SCU's had no mandate to take over all the statistical functions performed in their respective headquarters and, as has been already related, absorbed them only gradually, and never completely.

Had statistical control been willing to compromise with the Materiel Command in the question of monitoring production statistics, an SCU might have been established at the command headquarters in 1942 for the purpose of transmitting the standard reports of the system. As matters stood, the reports had to be sent by Materiel Command organizations to an SCU in the headquarters of another command for transmission to Washington.⁶⁰ Statistical Control complained that these reports, particularly Form 110, were often delinquent, and argued, not without justice, that full compliance with the reporting regulations could hardly be obtained unless an SCU were set up at Wright Field to enforce them.⁶¹ At the same time, however, Statistical Control complained that the Materiel Command's handling of its own specialty, production statistics, on which Sta-

tistical Control obtained and published summary figures, was inept. In particular, it declared that accurate statements regarding acceptances and deliveries and the status of contracts could not be obtained from the Materiel Command.⁶² Clearly, one of the reasons why Statistical Control continued to desire the establishment of an SCU in the Materiel Command was to obtain the supervision of such reports. On the other hand, had the Materiel Command been less adamant about the complete independence of its reporting agencies from the supervision of Statistical Control in Washington, it might have found the latter willing to concede a considerable measure of autonomy. At least, this is what actually happened in the case of certain other commands. It is true that as the SCU's took over more and more of the statistical functions performed in their respective headquarters, those functions became in some degree subject to the supervision of the Statistical Control Division; but in some cases, as, for example, the supply reporting activities of the Air Service Command, the supervision was comparatively slight. The tendency toward the decentralization of statistical reporting would very likely have worked in the direction of autonomy in the Materiel Command no less than in the Air Service Command.

Just as the Materiel Command was persistently hostile to the establishment of statistical control in its organization, the Statistical Control Division just as persistently refused to assign to the Materiel Command any graduates of the AAF Statistical School.⁶³ Intercession by the office of the Assistant Secretary of War for Air was required to secure an exception to this rule.⁶⁴ It was true that there were too few statistical officers even to meet the

needs of existing SCU's. When, however, the Air Service and Materiel Commands were combined in August 1944, and the Materiel Command's statistical organization was consolidated with the Statistical Control Office of the Air Service Command, high priority was given to the request of the new command for graduates of the Statistical School, even though heavy demands were then being made upon the available supply of officers by the expansion of the overseas elements of the system.⁶⁵

Meantime, Wright Field maintained very close relations with its statistical office in Washington. Back in May or June 1942 it had been agreed, by conference between the Materiel Center and Headquarters Materiel Command that Wright Field would prepare all operating reports except the D-8, the daily aircraft production report, which would be prepared by the Division of Plans, Statistics, and Analysis at Headquarters Materiel Command. Except for the D-8 report, however, the functions of the latter agency would be purely of a staff nature, consisting of analytical studies and the establishment of objectives and methods for the Wright Field statistical organization. When in March 1943 Headquarters Materiel Command was moved to Wright Field and a new staff office, MM&D, was set up in Washington with supervision over the affairs of the Materiel, Air Service, and Air Transport commands, the top personnel in what had been Headquarters Materiel Command became the top personnel in MM&D, and the former Division of Plans, Statistics, and Analysis became the Analysis and Reports Branch of the Control Office, MM&D. It had precisely the same relation to Wright Field as before.⁶⁶

Theoretically, MM&D had the same jurisdictional relationship to the Air Service Command as it had to the

Materiel Command, but actually the relationship was by no means so close.* Headquarters Air Service Command resisted the supervision of MM&D in general, and in particular the Analysis and Reports Branch was unable to establish the same sort of close supervision over the 15th SCU at Patterson Field as it had over the Statistical Control Office at Wright Field. The attainment of such a relationship was frustrated by the Statistical Control Division at Headquarters AAF,⁶⁷ which was unwilling to share the supervision of the 15th SCU with any other Headquarters agency, particularly an agency which supported the resistance of the Materiel Command to affiliation with the statistical control system.

At the time MM&D was established, the 15th SCU was not responsible for the principal supply-reporting activities of the Air Service Command. These were in a chaotic condition. Against the background of an increasingly insistent demand at Headquarters AAF and in the War Department that AAF supply reporting be reformed, there went on a kind of three-cornered struggle for supremacy involving the Air Service Command, the Statistical Control Division, and MM&D. During the summer of 1943 the Air Service Command found it desirable to enter into a closer association with Statistical Control, through which the command was assisted in revising supply directives. The following September the 15th SCU was given the responsibility for the stock balance and parts consumption reporting of the command.⁶⁸

While the Statistical Control Division pointed proudly to the achievement of the 15th SCU in devising, in the fall of 1943, a

*The Air Transport Command may be disregarded for the purposes of this story. It did not enter into the controversy.

stock balance and parts consumption reporting system⁶⁹ MM&D remained dissatisfied. For one thing, this system covered supplies in depots only, not supplies in transit or in use. The same criticism was applied to the Air Service Command overseas stock balance and parts consumption reporting system, installed in 1944.⁷⁰ Organizational Planning in the spring of 1944 drew up a severe indictment of Air Service Command supply reporting with reference to program planning. This indictment, however, applied not so much to the Statistical Control Office of the Command as to the Headquarters of which that office was an agency. Organizational Planning also criticized statistical reporting in the Materiel Command.⁷¹ The organizational Planning survey was preliminary to the merger of the two commands, which had been proposed about that time and which, its proponents said, would immeasurably simplify the problems of statistical reporting and control that the fields of production and supply presented.⁷²

A new command could be required by directive to affiliate itself with the statistical control system,⁷³ but the Materiel Command, so long as it retained a separate identity, might have retained a separate statistical organization. As early as June 1944, however, representatives of the Statistical Control Division and the Control Office, MM&D, were discussing the organization of a Statistical Control Office at Wright Field.⁷⁴ on 5 August General Meyers was appointed Deputy Director of AAF Materiel and Services, as the combined command was known temporarily,⁷⁵ and ordered the consolidation of the Air Service and Materiel Command statistical organizations.⁷⁶

The Statistical Control Office at Headquarters ATSC was simply the

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SCO of the ASC expanded to include the old Materiel Command organization at Wright Field, which had been much the smaller of the two. A tendency which had existed in the Materiel Command since the end of 1943 toward the decentralization of reports was reversed,⁷⁷ but not all the major reports were given to the SCO of the ATSC. The manpower or labor reports, for example, continued to be put out by the Manpower Office, Management Control, ATSC, and the daily aircraft production report continued to be put out by the Manpower Office, Management Control, ATSC, and the daily aircraft production report continued to be put out by the Control Office, M&S (formerly MM&D).

When the Statistical Control Office of the ATSC assumed responsibility for issuing the former Materiel Command reports on the contract status of aircraft, it undertook to correct the principal grievances the Division had nursed against the Materiel Command.⁷⁸ But the ATSC Statistical Control Office had not only to meet the requirements of the Statistical Control Division; like the old Wright Field statistical organization, it was also kept subject to the close supervision of the Control Office, M&S. In the fall of 1944 the Control Office, M&S, jointly with the Statistical Control Division, directed a great deal of effort toward an over-all revision of the entire supply reporting system of the ATSC.⁷⁹

At the instance of ATSC's commander, General Knudsen, the Statistical Control Office of the ATSC in the fall of 1944 also began an entirely new project--the introduction of dollar accounting into the methods of the Command. The project had the support of Organizational Planning, and to some extent it was supported also by Statistical Control at Head-

quarters AAF.⁸⁰ M&S, however, was not interested in pushing the dollar accounting project, on the theory that it was more important to have the right number of the right items than to know dollar totals.⁸¹

One other instance of opposition to the introduction of SCU's into the commands may be noted. In the case of the Flying Training Command, at the Headquarters of which there was no SCU until the Flying and Technical Training Commands were consolidated in the summer of 1943, the principal issue centered about the control of the personnel of the SCU. Inasmuch as the SCU would be one of the main staff agencies, located at the policy-making level, this question of the control of personnel seemed to the command of very great importance. The following memorandum written by the Acting Chief of the Statistical Control Division during the spring of 1943, when Statistical Control was trying to convert the Flying Training Command to the installation of an SCU, shows this viewpoint of the command clearly, as well as the kind of salesmanship which was employed to overcome it:⁸²

Mr. MacCatherine and I [so the memorandum read] had a long talk with Colonel Jones at Fort Worth last night apropos [sic] of your conversation with General Kraus, Chief of Staff of the Flying Training Command.

It develops that there is no possible criticism of our being high-handed in trying to force an SCU or personnel on them. The whole staff, General Kraus included, are most anxious to have one and spent most of yesterday talking of nothing else.

What they do consider high-handed are the provisions of AAF 20-11 which gives you authority over the personnel of Statistical Control Units. In other words, they wanted it badly but object very much to any strings being attached. It is exactly as if the mayor of a city had just discovered the telephone system and was anxious to get one for his city but insisted that he be allowed to hire

and fire all employees at the telephone exchange. I did not think of this comparison at the time but did ask whether they would expect to hire and fire medical personnel if they wanted a station hospital. Colonel Jones answered that a station hospital would not sit in as intimately on the headquarters staff functioning and that that was the objection.

We pointed out that we would not keep an SCU commander or any one else in an SCU a day after the Commanding General or his A-1 indicated to us that he no longer wanted them and had in fact removed several commanders for that reason, also that the Commanding General had full control over promotions. All we did insist was that personnel could not be transferred out of our system and to that extent only were our personnel.

We also pointed out that General Yount had only to call the Commanding Generals of the three Training Centers and ask whether this "divided loyalty" which he so much objected to in theory actually worked out badly in practice on the general basis of "Ask the man who owns one."

Reporting in the Case of Commands Without SCU's

The use of the standard statistical control reports did not wait upon the installation of Statistical Control Units in the several commands and air forces. From the time of the establishment of the Replacement Control Depots, in commands where there was no SCU, reporting organizations sent their reports to the nearest or most conveniently located SCU. From there they were transmitted to Washington in the same manner as the reports of the command under the jurisdiction of which the SCU was operating.⁸³ Early in 1943 Headquarters AAF published the first of a series of directives listing all the AAF organizations in continental United States according to the SCU's which were to service them.⁸⁴

Consolidation of Statistical Control Units and Machine Records Units of the Adjutant General's Office

It will be recalled that the only mechanical equipment possessed by the Replacement Control Depots was teletypewriter equipment. In the summer of 1942, after the depots had been redesignated Statistical Control Units, the first steps were taken to furnish them with IBM machinery,⁸⁵ but procurement did not advance very rapidly. The first considerable acquisitions of equipment by field organizations resulted from the consolidation of the SCU's with MRU's of The Adjutant General's Office.

In the early summer of 1942 AAF organizations were being serviced by MRU's according to two distinct plans of operation, the inception of which has explained in a previous chapter.* MRU's and their subsidiary detachments in the Corps Area Commands were servicing upon a geographical basis, all Army components, whether of the AAF, AGF, or SOS. There were also four MRU's which were attached, respectively, to the four numbered air forces in the continental United States. While these four MRU's operated to some extent upon a geographical basis, each one took care primarily of the component organizations of the command to which it was assigned, and in no case handled the records of other than AAF organizations.

The principal function of the MRU's, operating under either plan, was to collect and transmit to The Adjutant General's Office the personnel data required by The Adjutant General's army-wide personnel reporting system. They had a local function also which was to provide the organizations they serviced with desired records and reports. In the case of the MRU's attached to the numbered air forces, this latter responsibility was interpreted in such a way as to

*See above, Ch. I pp. 11-12

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make the MRU a machine-services adjunct of the SCU attached to the same headquarters.

Early in May 1942 representatives of the Machine Records Division of The Adjutant General's Office and of the Directorate of Statistical Control agreed that instructions governing the general operation of the MRU's, and all orders relating to The Adjutant General's personnel reporting system, should emanate from The Adjutant General's Office. On the other hand, Statistical Control might entertain a direct correspondence with the MRU's in regard to the services they performed for the statistical control system. The Directorate thus obtained informally the power of exercising much the same sort of technical supervision over the MRU's as it was to exercise over the SCU's. The MRU's were to be instructed to give equal priority to the needs of Statistical Control and The Adjutant General.⁸⁶

The AAF MRU's were not, however, servicing half the personnel of the AAF. In the latter part of July, Statistical Control proposed that MRU's be assigned to other AAF commands. The Adjutant General agreed, and it was recommended that MRU's should be assigned to the four Air Service Area Commands, the three training centers of the Flying Training Command, the four districts of the Technical Training Command, and that the new MRU's should operate upon a modified command basis, each one servicing both the command organization to which assigned and all miscellaneous AAF organizations within the area of that command.⁸⁷

This plan was put into effect gradually, over a period of months. MRU's never were assigned to the Air Service Area Commands, but by early December they were in operation not only in the four air forces but also in the three training centers of the

Flying Training Command⁸⁸ and had been activated--though they were not yet in operation--in the first three districts of the Technical Training Command.⁸⁹

Meanwhile, a movement for the consolidation of the SCU's and MRU's had achieved some success. The idea of consolidation was current in the statistical control organization at least as early as the beginning of August 1942, when the Commanding Officer of the 1st SCU at Mitchel Field submitted to the Director of Statistical Control a proposed T/O in which provision had been made for the absorption of the MRU's by the SCU's.⁹⁰ The real impetus, however, came from the Deputy Chief of Staff who, late in August, directed The Inspector General to conduct an investigation into the progress being made by The Adjutant General and the AAF in "combining" their field reporting systems. The Inspector General recommended that the SCU's and the AAF MRU's be physically combined, not because there was any duplication in the data procured by the two types of units, but because the development of two parallel machine records systems servicing the very same organizations was obviously wasteful. As the report noted, Statistical Control had already begun to put some IBM equipment into the SCU's. It was proposed that the two types of units be consolidated under the jurisdiction of the AAF, and that Statistical Control be made responsible for furnishing The Adjutant General with the personnel data now obtained through the MRU's attached to air force commands.⁹¹

The Adjutant General's Office opposed the recommendation strenuously, but in vain. While the consolidation movement doubtless succeeded mainly from the weight of the Inspector General's opinion,

Lt. Col. Ambrose White, the new Chief of the Machine Records Division of The Adjutant General's Office, was personally converted by the Commanding Officer of the 5th SCU at the Gulf Coast Training Center to the idea that MRU's servicing AAF organizations should be absorbed into the statistical control system.⁹²

About the middle of December commands having both SCU's and MRU's were notified of the impending consolidation and instructed to begin preparing for it.⁹³ The War Department directive not only contained the Inspector General's recommendations, but also enjoined upon Headquarters AAF--i.e., Statistical Control--the consolidation of the two record-keeping systems in so far as The Adjutant General's records concerned AAF personnel.⁹⁴

The AAF personnel reporting system, which recorded data primarily about categories, had been designed to supplement rather than to duplicate The Adjutant General's army-wide system, which handled information primarily about individuals. But, although the report to the Inspector General had stressed only the idea of securing an economical utilization of personnel and equipment, there was an area where duplication of records existed, as Headquarters AAF was well aware.⁹⁵

At the same time, the entire AAF personnel reporting system was revamped. All this required several months for completion, and the new consolidated reporting system did not become effective until July 1943.⁹⁶ Before the physical consolidation of the units had been completed, a number of MRU's in addition to those which had been effected by the original directive had been activated and assigned to various AAF commands--the Fourth and Fifth Districts of the Technical Training Command, the School of Applied

Tactics, the Air Service Command, and the Troop Carrier Command. These were also consolidated with the SCU's at their respective locations.⁹⁷

By the middle of the year 1943, therefore, all records of The Adjutant General respecting the personnel of AAF organizations in the continental United States were being kept by the SCU's. The Adjutant General personnel records pertaining to commands which did not have SCU's were, like AAF personnel reports, handled by SCU's in the headquarters of other commands.⁹⁸ A special problem had been presented by the case of the Air Transport Command, at the Headquarters of which was located the 16th SCU. No MRU had ever been assigned specifically to service the Air Transport Command. A very large part of the operating organization of the command was located overseas. Although from the viewpoint of jurisdiction, the whole command had the status of a continental organization, The Adjutant General's Office considered the overseas components as comparable to other overseas organizations in so far as The Adjutant General's personnel reporting system was involved, and they were serviced by overseas MRU's. It was not until August 1943 that the Statistical Control Division secured The Adjutant General's consent to having the machine records of TAG personnel system for all organizations of the ATC, both continental and overseas, serviced by the 16th SCU.⁹⁹

The merger of the two kinds of units amounted to the mechanization of all existing SCU's in the Zone of Interior, most of which had previously operated on a manual basis. This was an event of major importance. The magnitude of the task undertaken by Statistical Control made the extensive use of tabulating machinery imperative. It was far more satisfactory for the Division, in exer-

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cising technical supervision over reporting procedures in the field, to have complete instead of partial control over the facilities of the field employed. Not that the IBM equipment brought into the statistical control system by the MRU's, though a generous endowment, proved adequate to meet the requirements of an ever-expanding workload. Consolidation had hardly been completed before Statistical Control made formal requisition for a further supply

from other sources.¹⁰⁰ There was another significant aspect to the merger. No longer would two separate and frequently divergent sets of personnel strength figures be returned for AAF organizations in continental United States, requiring reconciliation before they could be employed for purposes of planning and control by War Department authority. Statistical Control now had a monopoly of personnel reports for the AAF in the Zone of Interior.



Chapter 4

ESTABLISHMENT AND OPERATION OF STATISTICAL CONTROL IN OVERSEAS THEATERS

Technical Supervision in Overseas Theaters

While the principles of command jurisdiction and technical supervision were used in the statistical control system in theaters of operations to the same end as in the continental United States, the manner in which they were employed was affected by the fact that the jurisdictional relationship of Headquarters AAF to overseas air forces was not direct, as it was in commands and air forces in the Zone of Interior, but was exercised through the War Department. So far as the command principle was concerned, the differences were slight; reports and directives simply traveled through more layers of authority than they did in the Zone of Interior. In the case of technical supervision, on the other hand, the differences were considerable.

The legal basis for the supervision exercised by the Statistical Control Division overseas was not a general authorization. There were no War Department directives comparable to AAF Regulations 20-2 and 20-11 governing the functions and responsibilities of continental SCU's and statistical officers and establishing the general technical supervision of the Statistical Control Division over the field in the Zone of Interior. The legal authority for this supervision over theater statistical control organizations lay only in certain War Department directives which required theater commands to comply with instructions for reports, and

in tables of organization for SCU's which were promulgated by the War Department after consultation with Statistical Control. Such directives enabled the Division to develop standardization of reporting at air force level. Beyond this, however, control exercised by the Division over the theaters was extra-legal or indirect.

Both on this account and because critical decisions often had to be made on the basis of conditions peculiar to the theaters where Washington could not have given material assistance, the overseas SCU's had to bear a much larger share of the responsibility for developing and maintaining the statistical control system than those in the Zone of Interior. The commanding officers of overseas SCU's had to establish both policies and procedures. Except for the standard operations report, Form 34, which was first used in the theaters toward the end of the year 1942, overseas SCU's did not have basic-data forms ready-made in Washington for the use of lower echelons. Washington only specified the kind of information it desired in the form of air force summaries. The reporting procedures which were devised in the SCU's varied widely from theater to theater. The policing of the system varied somewhat too, depending on such considerations as the degree of integration of the theater organizations and the distances from the field operating organizations to the central SCU. The great distance of field stations from the headquarters of the Fifth

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Air Force, for example, made it necessary that the officers of the 20th SCU take frequent field trips¹ such as would have been unnecessary in the United Kingdom. In CBI the 22d SCU affixed to the official theater memorandum on the organization and functions of the statistical control system certain detailed suggestions as to the kind of data to be maintained by statistical officers attached to field organizations, the ways in which the data might be presented to their commanding officers, and the ways in which statistical presentations might be used to stimulate the morale of a combat organization.²

Nevertheless, despite the inability of the Division at Headquarters AAF to compel overseas SCU's to conform with instructions from Washington in all matters of technical procedure, every possible pressure was exerted to make the statistical control system overseas resemble as closely as possible the system in the continental United States. As in the latter jurisdiction, the starting point for the institution and maintenance of statistical control overseas was the training and selection of statistical officers; but in the case of overseas theaters, more depended upon it. At Harvard, therefore, a considerable emphasis was placed upon the problems of combat operations reporting, while special indoctrination in the activities of overseas SCU's was furnished at overseas replacement training centers.*³ Special emphasis was placed upon the personal qualities of initiative and aggressiveness, upon employing the services of the best organizers and most experienced officers in the system--frequently branch chiefs in the Statistical Control Division and commanding officers of continental SCU's--as the commanding officers

of overseas SCU's. The Division had no authority to control overseas assignments, but it did have gentlemen's agreement with the Military Personnel Division by which the latter would designate in any given instance the individuals chosen by Statistical Control.

Although the grade of colonel had been recommended originally by the Fifth Air Force for the commanding officer of an SCU, Statistical Control had determined that a lieutenant colonel would be sufficient. When Statistical Control reconsidered the matter and asked for the grade of colonel, apparently as a result of Colonel Thornton's visit to ETO and MTO in the spring of 1943, it ran into the opposition of the War Department. Despite the fact that Management Control, the Air Staff, and several air force commanders overseas supported Statistical Control's request that commanding officers of overseas SCU's have the rank of colonel, the War Department T/O's were not changed. This rank was conferred upon the commanding officers at Headquarters USSTAF, Headquarters Ninth Air Force, and Headquarters Mediterranean Allied Air Forces, but only on the volition of theater commanders from their bulk allotment. Finally, in early 1945 the grade of colonel was authorized in the top overseas SCU's.⁴ Although theater commanders not infrequently turned down requests made by Statistical Control for recalls and transfers, the Division was successful in securing compliance with its purposes in this regard in perhaps 70 percent of the cases.⁵ The loyalty of statistical officers to the system as a whole was revealed by a certain informal *camaraderie* in communications from the Division, and by a disposition in Washington to give praise wherever possible. These facts, plus experience gained by the personnel in the Zone of Interior,

*See below, Ch. V.

largely account for the general conformity of theater directives governing the operation of theater or air force statistical control systems with the principles underlying the operation of the system in the Zone of Interior, for the theater directives were usually written by the SCU's.⁶

In securing the cooperation of the theater or air force commander, the first problem usually encountered was that of persuading him to consent to the installation of an SCU. In the early days the Statistical Control Division hastened to exploit the interest of overseas commanders in statistical officers. "Paper work" was the great plague of theaters of operations. Anything which promised a measure of relief from this was welcomed. An inquiry about statistical officers came from the Southwest Pacific Theater as early as May 1942. By the middle of August requests for statistical officers from the Southwest Pacific Theater totaled 32, and others were requisitioned by the Sixth Air Force in the Caribbean Department.⁷ During the fall additional requests were received from the Tenth Air Force in India and from Headquarters⁸ Eighth Air Force Service Command in Great Britain.⁹

Usually Statistical Control concurred in such requests as soon as the officers were available from among the graduates of the AAF Statistical School. At the same time it emphasized that these men had been trained to operate a special type of system founded upon definite principles, which required the expert assistance of the Statistical Control Division at Headquarters AAF. Statistical Control was described as especially useful overseas because it would simplify reporting procedures, relieve combat organizations of their burden of paper work, and provide the command headquarters

with necessary information and statistical studies, at the same time furnishing information required by Headquarters AAF. Rather larger claims--large at least for that date--were made for the general utility of the statistical control system. "This statistical reporting system has worked wonders for the Army Air Forces," the Commanding General of the Tenth Air Force was informed. "It has been thoroughly tested under trying conditions and in every case General Arnold has been supplied current, accurate information upon which the base tactical decisions. We are able to say at any time where we are, what we have, and what we can afford to do with it."¹⁰ Emphasis was also placed upon the flexibility of statistical control in meeting the varying requirements of different theaters, and on the idea that its primary mission was to serve the command in which it was installed.¹¹

The first true overseas SCU¹² was the 20th, established during late November and December 1942 at Headquarters Fifth Air Force, in Australia. It appears to have been exceptionally well and speedily organized by Major Harold L. Suttle, who had previously been Chief of the Personnel Statistics Branch in the Directorate of Statistical Control. The reports which began coming in from the 20th SCU before the end of December occasioned considerable satisfaction in the Division, for they included the first overseas personnel reports devised according to statistical control specifications and they proved eminently usable. They were regarded as a harbinger of the success of the system overseas.¹³

More difficulty was experienced with the establishment of the first SCU in the European theater. In December 1942 a request had emanated

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from the Eighth Air Force Service Command for the assistance of two members of the faculty of the AAF Statistical School who would be assigned to the Research and Statistical Unit of the Plans Section, Eighth Air Force Service Command. Statistical Control concurred in this request, after having first apprised Brig. Gen. Ira C. Eaker of the nature and advantages of the statistical control system.¹⁵ In February 1943 the 21st SCU was activated in the Eighth Air Force, but circumstances prevented it from becoming immediately useful. No suitable commanding officer was then available, the Statistical School consultants then being civilians. Furthermore, a misunderstanding developed with General Eaker, who objected to furnishing personnel for the unit on the ground that he had been promised a unit completely manned and trained in the United States. The successful establishment of the statistical control system in the U. K. appeared so seriously jeopardized that Colonel Thornton went to England to straighten matters out. By April, a month after his arrival, the 21st SCU was operating, although the organization of the system at lower echelons in the Eighth Air Force remained yet to be carried out.¹⁶

Meantime, Headquarters AAF had become much concerned about the informational aspects of the campaign in the North African theater, where Generals Carl Spaatz and James Doolittle were operating under the overall command of Air Marshal Sir Arthur Tedder. With the rapid expansion of air activity in that region, the organization and policing of combat reporting had been slighted; yet when AAF Form 34 was introduced, there were complaints from the field that it was unnecessarily increasing the burden of paper work. As the War Department General Staff was paying

some attention to these complaints, the Chief of Air Staff felt called upon to justify the installation of the form.¹⁷ Colonel Thornton was ordered by General Arnold to proceed, upon completion of his business with the Eighth Air Force, to North Africa, and to make a personal investigation of the aircraft losses and inventories reports from that theater.¹⁸ A study of the situation revealed that all types of reporting were in a "chaotic condition and required immediate corrective action." He converted Generals Spaatz and Doolittle and Air Marshal Tedder to the idea of a combined British-American theater system of controlled reporting to be installed by Statistical Control. In May 1943 the 23d and 26th SCU's were authorized for activation in the Twelfth and Ninth Air Forces respectively.¹⁹ Lt. Col. D. M. Barringer, formerly Commanding Officer of the 15th SCU at Headquarters ASC was ordered to MTO to take over the task of effecting coordination with the British in Tedder's headquarters.²⁰

During 1943 SCU's were set up in virtually every theater of operations where air activity had expanded.* After the establishment of the first half-dozen units, it was no longer necessary to "sell" Statistical Control to air force and theater commanders. The majority of the new SCU's established during 1944 were assigned to various air force service commands to perform, besides the "normal" functions of SCU's, stock inventory and parts consumption reporting, which has extended from the Zone of Interior to overseas theaters in this year.²¹ Others were top offices established in theater headquarters to supervise and coordinate the activities of "operating" SCU's. In order to keep

*The Alaskan theater was the only exception, and at the end of the year negotiations were under way for the establishment of an SCU there.

in close touch with this world-wide organization, representatives of the Statistical Control Division made many excursions overseas. During 1945 the Division inaugurated a policy of inviting the commanding officers of overseas SCU's to confer in Washington.²²

The Adjutant General's Machine Records Units and the Mechanization of the SCU's

Statistical Control sponsored certain broad projects involving the overseas SCU's. Notable among these was the consolidation of overseas SCU's and MRU's. At the time these agencies were consolidated in the Zone of Interior, most of the MRU's located overseas were assigned to theater commands. In their relations with Army components, therefore, they were comparable to the Corps Area MRU's in continental United States, not to the AAF MRU's. The first MRU to service an overseas air force exclusively was assigned, in the fall of 1942, to the Eighth Air Force in the U.K.²³ This was before there was any SCU in that air force. But the MRU did not begin operations until the following spring.²⁴ At the time of the installation of the 21st SCU in the Eighth Air Force in April 1943, the question arose as to how mechanical facilities were to be provided. It was agreed between the air force commander and Statistical Control that the 21st SCU should not itself be furnished with tabulating equipment, but should use the facilities of the MRU.²⁵ The same arrangement was made later in the year for machine tabulating services for the 12th and 15th Air Forces in MTO.²⁶ When the 26th SCU was set up in the U.K. in November 1943, MRU Services were promised to it.²⁷ Apparently no other MRU's were assigned in 1943 to overseas air forces as distinct from theater com-

mands, nor did any of the overseas SCU's at that time possess their own mechanical equipment.

It will be remembered that in May 1942 Statistical Control had been able to make an informal agreement with The Adjutant General on the division between them of technical supervision of MRU's which serviced air forces and similar commands in continental United States.* Similarly, the Deputy for Personnel Statistics and Technical Services of the Statistical Control Division went to the U.K. in the spring of 1944 and arranged with the theater command to increase MRU facilities available to the SCU's in ETO and to coordinate all instructions given to the MRU's with the top Statistical Control Office at Headquarters USSTAF.²⁸ Such a relationship between SCU's and MRU's was made applicable to all theaters. When a revision of the army regulation pertaining to personnel reporting, dated 5 August 1944, provided that "in those cases where statistical control units or offices and machine records units are assigned to Army Air Forces Commands, the units will effect a coordinated operation."²⁹ By December 1944 the 28th SCU at Headquarters Fifteenth Air Force reported "appreciable progress" in bringing the personnel records maintained by the 30th MRU into agreement with the "127" reports of the Statistical Control System.³⁰

Even so "coordinated operation" was not the same thing as the vesting of the entire power of supervision over the mechanical facilities and techniques of the MRU's in the Statistical Control organization. About the time consolidation of SCU's and MRU's had been completed in the Zone of Interior, Statistical Control had proposed that the same merger should be effected overseas. MRU's should

*See above, Ch. III., p. 38 ff.

first be assigned to overseas air forces which were serviced by SCU's and which did not yet have MRU facilities, and then they should be combined with the SCU's. However, pointing out that the Statistical Control Division had in a strict legal sense no general powers of technical supervision over any of its overseas installations, The Adjutant General's Office was successful at this time in blocking any plan of consolidation.³¹

Returning to the attack early in 1944, Statistical Control urged that consolidation of the SCU's and MRU's would obviate those difficulties in staff planning within the War Department which resulted from the receipt of two differing sets of personnel strength returns. It also advanced certain other arguments that were particularly applicable in the case of overseas as distinguished from continental organizations. The individual-record punch-card data kept by the MRU's would be more accessible to the air forces themselves, Statistical Control said, if these data were transferred to the SCU's, and the availability of this material would be extremely important in the event of redeployment and demobilization. Furthermore, the ASC stock balance and parts consumption reporting system was being extended to theaters of operations in 1944. It was imperative that mechanized units be established to handle it, and that these units be a part of the same system which handled such reports in the continental United States.³²

The effort to consolidate SCU's and MRU's was made first in ETO, the theater into which the overseas stock balance and parts consumption reporting system had been introduced first.³³ The attempt had proved unsuccessful in 1944, but discussions toward this end were initiated again in March 1945.³⁴ Management Control

pointed out to the Deputy Chief of Staff the many benefits that had accrued from consolidation in the Zone of Interior, adding that since the AAF overseas reporting system had been revised to conform with the ZI system, there was now no excuse for separate AAF and TAG units in ETO. It urged that the AAF be given responsibility for procuring all personnel data from AAF organizations outside the continental United States.³⁵ This time the War Department agreed, and on 9 May 1945 action was taken to consolidate SCU's and MRU's in ETO.³⁶

In the various Pacific theaters consolidation of the SCU's and MRU's was effected with less difficulty. Except for the 9th and the 24th, in 1944, all SCU's in those theaters were equipped with either fixed or mobile tabulating machinery and vested with the responsibility of performing MRU functions for all AAF commands. The mechanization of the 9th SCU was under consideration at the close of the year. The difficulty of moving machinery into the interior of China had hindered mechanization of the 24th SCU, but early in 1945 steps were taken to accomplish this end.³⁷

It is not difficult to account for the success of consolidation in the Pacific. In the Pacific theaters it was not a question--as it was in ETO and MTO--of consolidating the SCU's with MRU's already in existence as adjuncts of air force commands. Hitherto, the workload of SCU's in the Pacific theaters had been comparatively light, and MRU's had not been assigned specifically to provide machine service for them. The Adjutant General's functions were being performed by MRU's assigned to theater commands. When representatives of Statistical Control surveyed reporting needs there in the spring and summer of 1944, they got the assent of theater and air force

representatives to a plan whereby SCU's would absorb MRU functions at the same time that they would be provided with tabulating equipment. The plan was then submitted to the War Department as a *fait accompli*.³³ The War Department found it necessary to take some action to provide a region of rapidly expanding operations with a very extensive augmentation of both personnel and equipment, and accordingly adopted the plan Statistical Control was advocating.

While pushing the consolidation project, the Division also began, in March 1944, to undertake the procurement of IBM equipment for certain overseas SCU's regardless of whether they would assume MRU functions.³⁹ In at least one instance, where a question of providing further machine facilities for AAF reporting in MTO was involved, the Division preferred equipping the SCU's in that theater to having another MRU assigned to Headquarters AAF/MTO.⁴⁰ Procurement proceeded, although no formal authorization for mechanized overseas SCU's was secured earlier than a T/O&E (1-797) dated 8 March 1945. Statistical Control's plans for mechanization were drawn up many months in advance by reference to the Troop Basis. The policy of the Division was to have a mechanized SCU at the headquarters of every overseas command where an MRU had not been assigned specifically to service the air force components, in order to bring TAG personnel reporting into step with AAF personnel reporting. This was the only reason for the installation of equipment in the SCU in the Alaskan theater, since the volume of AAF reports there was not great enough in itself to require machine processing. (The AG data could only be processed mechanically; hence if the SCU was to handle them, it must be mechanized.)⁴¹ Customarily, a representative of the Division would be sent out to work up

requirements with the theater command, which would then request the equipment.

By V-J Day consolidation of the SCU's and MRU's had been effected in all the Pacific areas and in ETO. It appears that the termination of hostilities prevented consolidation in MTO.⁴² Soon after V-E Day, however, a significant step was taken toward consolidating the requirements of the War Department and Headquarters AAF for the reporting of specific data processed by SCU's. An AG letter of 25 May 1945 prescribed the functions of the SCU's as contrasted to the MRU's, provided for the routing of the various reports, and made more official the technical supervision Headquarters AAF exercised over certain types of overseas reporting.⁴³

Reports Control

The development of reports control was another project which the Statistical Control Division sponsored in all theaters of operations, where a problem existed similar to that found in Zone of Interior commands and air forces. As in the United States, the overseas SCU's became the principal agencies for reports control. A China-Burma-India theater directive published early in 1944 states: "It is a primary function of the Statistical Control System to eliminate obsolete, overlapping, and unnecessary reports. The field Statistical Officer is the medium through which this Headquarters may obtain information on which corrective action may be instituted."⁴⁴ During the summer of 1944 the 38th SCU made a survey of reports required in the Fifteenth Air Force. Following this, Headquarters AAF/MTO directed the establishment of a reports control system throughout the Air Force according to the pattern set up by the Zone of Interior directive.⁴⁵

In November of the same year Statistical Control informed the Air Inspector that "some progress has been made in practically all theaters in putting in the system as prescribed by AAF Regulation 80-2 and Reports Control Manual 80-2."⁴⁶ However, no general directive covering all theaters was issued by the War Department. The problem of establishing a control over the reports requested from overseas air forces by agencies at Headquarters AAF was settled in the beginning of the year 1945 through the expedient of conferring on the Statistical Control Division the authority to clear such reports.⁴⁷

The Integration of Theater Statistical Control Organizations

In the course of the year 1944 nearly every overseas SCU became part of a semi-hierarchal theater system in which a top office was endowed with powers of technical supervision over the other SCU's in that theater. This pyramiding of theater SCU organization obviously had utility in tying together the world-wide statistical control system under the aegis of the Statistical Control Division in Washington. There were fewer offices with which to coordinate policies, and any centrifugal tendencies could be combated more easily when the SCU's in question were a part of a theater hierarchy.

This development began when statistical control was first established in MTO, where the hierarchal arrangement was virtually dictated by the fact that the statistical organization was a joint undertaking of the British and the Americans. The American statistical control system and the British operations records system, while preserving their identity at lower echelons, shared the same top echelon--the Statistical

Control and Operations Records Section (SCOR) of Headquarters MAAF. SCOR was established in a provisional form in June 1943, at the same time as the first SCU's in that theater, the 26th with the Ninth Air Force and the 23d with the Twelfth. It received a definite status some months later. SCOR aligned British and American practice of operations reporting in the theater. It conducted operational analysis for the Allied command, and it exercised technical supervision over the entire theater system. But while it transmitted all reports from the theater, it was not itself an operating organization. The 30th SCU, which was set up in February 1944 and assigned to Headquarters AAF/MTO, became, with respect to AAF statistics, the operating organization for SCOR.⁴⁸

This same type of theater organization was extended even to theaters where there was no question of combining the American reporting system with that of an ally. In January 1944, following a second trip to the U. K. by Colonel Thornton,⁴⁹ a Statistical Control Office was established at Headquarters USSTAF and given technical supervision over all statistical control activities in ETO.⁵⁰ At that time the latter included the 21st SCU in the Eighth Air Force and the 26th in the Ninth, which had been transferred from the Middle East in the preceding autumn. In April 1944 these were augmented by the installation of two new SCU's to handle the stock balance and parts consumption reporting system in the U. K.: the 32d SCU, assigned to USSTAF Air Service Command, and the 31st, assigned to USSTAF Air Service Command Base Air Depot Area.⁵¹

With the intensification and expansion of the warfare against Japan in the late summer of 1944, jurisdiction over the Fifth and Thirteenth Air Forces, which had been operating

separately in the Southwest Pacific, was given to a new top echelon of command, Headquarters Far Eastern Air Forces (FEAF). In September the 20th SCU, servicing the Fifth Air Force, was reassigned to Headquarters FEAF, while its place was taken by a new SCU, the 34th. Another new SCU, the 38th, was assigned to Headquarters Far East Air Service Command in October. The 25th, servicing the Thirteenth Air Force, the 34th, and the 38th SCU's were subject to the technical supervision of the 20th, in much the same way as the 30th SCU at Headquarters AAF/MTO performed operating functions for certain miscellaneous organizations which were also under the jurisdiction of Headquarters AAF/MTO.⁵²

More complex than the organization in FEAF was the Statistical Control hierarchy set up in the Pacific Ocean Areas (POA). The 9th, servicing the Seventh Air Force and dating back to 1942, was the first SCU in POA. In July 1944 appeared the next component, the 29th SCU, assigned to Headquarters Seventh Air Force Service Command (which later became the Air Service Command for POA). In September of that year the 35th SCU was assigned to Headquarters POA, to serve as the operating unit for the POA Air Forces exclusive of the POA Air Service Command. These two SCU's were on the same echelon, while the 9th was under the jurisdiction of the 35th. Finally, over the 29th and the 35th was set a supervisory office, the Statistical Control Division of POA, which was comparable to SCOR in MTO and to the Statistical Control Office at Headquarters USSTAF.⁵³

Complete integration of statistical control organizations was never achieved in CBI because of the confused jurisdictional relationship between the Fourteenth Air Force and the CBI Sector Command. The 22d SCU, which had been authorized for establishment in the Tenth Air Force

in February 1943, was reassigned to Headquarters CBI Sector Command in September of that year. In October the 24th SCU was activated at Headquarters Fourteenth Air Force. Maj. Gen. George E. Stratemeyer at Headquarters CBI Sector Command demanded that the reports of the 24th SCU be routed through the 22d, so that his staff might have the benefit of them, whereas Maj. Gen. Claire L. Chennault, in command of the Fourteenth Air Force, which had become independent of the CBI Sector Command, insisted that the reports go directly to Washington. The controversy ended in a compromise, with the 24th SCU sending its reports direct to Headquarters AAF, but furnishing the 22d SCU with copies. The 24th SCU, however, did not operate, and never had operated, under the technical supervision of the 22d. The only SCU which came to operate under the jurisdiction of the 22d was the 39th, activated in November 1944 in the CBI Air Service Command.⁵⁴

A few overseas Statistical Control agencies were not connected with any of the preceding regional systems. Among them was the 27th SCU, servicing the Eleventh Air Force in Alaska. The Statistical Control Section of the Sixth Air Force Service Command was likewise independent of any theater organization.⁵⁵ In some cases overseas commands had statistical officers trained in the statistical control system although they had no Statistical Control organizations. For example, the Iceland Base Command and the South Atlantic Command each had one statistical officer.⁵⁶

Overseas SCU's as Agencies of Their Commands

The functional evolution of overseas SCU's as command agencies presents a marked divergence from that of SCU's in the Zone of Interior. The only overseas SCU's which at the

beginning of their history were identified with personnel reporting were the 9th, attached to the Seventh Air Force, and the 10th, attached to the Sixth Air Force. Both had been Replacement Control Depots, and both, unlike the continental Replacement Control Depots, actually were depots for handling the flow of personnel as well as personnel statistics. Despite its redesignation as an SCU in June 1942, the 10th never did in fact become anything other than a Replacement Control Depot, and was redesignated as such at the request of the Statistical Control Division in November 1943.⁵⁷ When the Division inquired about the activities of the 9th SCU in March 1943, it found that this SCU was still operating primarily as a Replacement Control Depot, but that it was organizing a new sub-section for materiel statistics which was intended to relieve the A-4 section of the staff of a certain amount of labor.⁵⁸ With the encouragement of the Division, the 9th SCU evolved eventually into the nominal overseas unit of the statistical control system.⁵⁹

Although statistics on combat operations and supply ultimately became major activities of the overseas SCU's, one of the first reporting systems introduced into each theater by newly activated SCU's dealt with personnel. It happened that the principal initial interest of Headquarters AAF and of the Air Service Command in the product of the overseas SCU's coincided with the principal activity of the commands to which the SCU's were assigned. Perhaps it was for this reason that, in general, the units were accepted as necessary agencies of the commands more rapidly and spontaneously overseas than in the Zone of Interior.

Jurisdictionally, overseas SCU's occupied the same position in their headquarters as those in the conti-

mental United States. They were staff agencies equal in status to other staff divisions. This did not mean that they always reported directly to the chief of Staff. In CBI, POA, and ETO the staff offices at the top echelon were grouped under deputies. In each of the two first-named theaters there were three deputies; in ETO there were two.⁶⁰ In each case the commanding officer of the SCU reported to the Deputy for Administration.

The personnel authorization for overseas SCU's, as the general retention of the designation "unit" indicates, was still determined by War Department tables of organization after exact manning had been adopted in the United States.

Redeployment and Demobilization

In June 1944 OC&R inquired what plans the Statistical Control Division had made for the reporting of redeployment after victory in Europe. The Division answered that the statistical control personnel reporting system would provide sufficient information for all purposes in that event. Nevertheless, it made definite preparations to coordinate with theater statistical control organizations the reporting procedures which would be used during redeployment. The Division declared that statistical control organizations were adequately staffed for redeployment reporting except in the case of aerial and water ports of embarkation and debarkation. There was then no authorization at all for statistical officers or enlisted personnel at water ports in foreign theaters.⁶¹ At the request of OC&R, Theaters Branch, Statistical Control trained several statistical officers especially for assignment to such posts.⁶²

From V-E Day to the end of hostilities with Japan, Statistical

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Control made repeated analyses of the various factors involved in redeployment. The first steps toward demobilization and the constantly shifting requirements for discharge made necessary very frequent studies to indicate how well the AAF was maintaining its balance of personnel in the various occupational categories.

By the end of the war, AAF statistical organizations throughout the world had achieved an impressive size. On 31 August 1945 the units and lower echelons overseas employed a total of 5,967 officers, enlisted personnel, and civilians. On the same date there were 11,907 individuals similarly engaged in the Zone of Interior.⁶³

CHRONOLOGY OF STATISTICAL CONTROL UNITS
IN THEATERS OF OPERATIONS

| Unit | Assignment | Date of Installation* | Special Remarks |
|--------------------------------|--|-----------------------|--|
| 9th SCU..... | Seventh Air Force.. | Feb. 1942..... | Established as a Replacement Control Depot assigned to Hawaiian Departmental Air Force; redesignated 16 June 1942. |
| 10th SCU..... | Sixth Air Force..... | Feb. 1942..... | Established as RCD assigned to Caribbean Departmental Air Force; redesignated SCU 16 June 1942, redesignated RCD 16 Nov. 1943. |
| 20th SCU.. . . . | Fifth Air Force. . . . | Nov. 1942..... | |
| | Hq., FEAF..... | Sept. 1944..... | |
| 21st SCU..... | Eighth Air Force..... | Feb. 1943..... | |
| 22d SCU... .. | Tenth Air Force..... | Feb. 1943..... | Inactivated 5 Dec. 1945 |
| | CBI Sector Command. . . . | Sept. 1943..... | |
| 23d SCU..... | Twelfth Air Force.. | May 1943..... | Inactivated 22 Sept. 1945 |
| 26th SCU..... | Ninth Air Force.. | May 1943 | |
| SCOR..... | Hq. MAAF..... | May-June 1943... | |
| 25th SCU..... | Thirteenth Air Force..... | June 1943..... | |
| 24th SCU..... | Fourteenth Air Force..... | Oct. 1943..... | |
| 28th SCU..... | Fifteenth Air Force..... | Jan. 1944..... | Activated Nov. 1943 in First Air Force. |
| Statistical Control Office... | Hq. USSTAF..... | | |
| 27th SCU... .. | Eleventh Air Force..... | Feb. 1944. | |
| 30th SCU. . . . | Hq. AAF/MTO..... | Feb. 1944..... | Inactivated 25 Sept. 1945 |
| Statistical Control Sec..... | Sixth Air Force Service Command | April 1944..... | |
| | USSTAF, Air Service Command..... | April 1944..... | |
| 32d SCU..... | Command..... | April 1944..... | |
| 31st SCU..... | USSTAF, BADA..... | April 1944..... | |
| Statistical Control Sec .. | MTO Air Service Command.. | June 1944..... | |
| 29th SCU..... | Seventh Air Force..... | July 1944 | |
| | Service Command (re-designated POA Air Service Command). | | |
| 34th SCU..... | Fifth Air Force..... | Sept. 1944..... | Established upon assignment of 20th SCU to Hq FEAF |
| 35th SCU..... | Hq., POA. | Sept. 1944..... | |
| Statistical Control Div. . . . | POA..... | ca. Sept. 1944.. | |
| 38th SCU..... | Hq., Far East Air Service Command..... | Oct. 1944..... | |
| 39th SCU..... | CBI Air Service Command.. | Nov. 1944..... | |

*In some instances the date given is date of authorization or activation. In such cases, actual installation occurred shortly afterward.

Chapter 5

TRAINING AND ASSIGNMENT OF STATISTICAL PERSONNEL

The AAF Statistical School

Everyone concerned in establishing statistical control in the AAF at the beginning of 1942 had agreed upon the necessity of having specially trained personnel to operate it. However, the first directive authorizing Headquarters AAF to train and assign statistical officers, AAF Regulation 20-2, published 2 February 1942, contained no specific instructions for the accomplishment of this end. The location of the school, the curriculum, the qualifications of trainees and the method of procuring them were matters all of which were still to be worked out.

The offices which participated in the founding of the AAF Statistical School were the Directorate of Individual Training, the Directorate of Statistical Control, and the Technical Training Command. The last, under whose jurisdiction it was assumed the school would function, appointed a project officer, Lt. Col. Paul Hanley, to investigate the possibilities of various locations and make the necessary contacts. The choice eventually fell upon the School of Business Administration at Harvard University. One cannot help being struck by the contrast between the extremely vital role which the AAF Statistical School came to play in the development of the statistical control system, and the fortuitous manner in which the association between the Directorate of Statistical Control and the Harvard School of Business Administration was achieved.

Some weeks before the Directorate of Statistical Control was created, conferences on training air force officers at the School of Business Administration had taken place between members of the faculty of that institution and Colonel Burwell and General Weaver, then acting Chief of the Air Corps.¹ After the reorganization of the AAF on 9 March, General Weaver became Commanding General of the Technical Training Command (TTC). In mid-April, when the choice of location for the Statistical School was to be made, the TTC preferred a site at Southern Pines, North Carolina.² The decision in favor of Harvard reflected the wishes of the Director of Individual Training and the Director of Statistical Control.³ Both had originally desired the school to be set up in Washington or vicinity, so that it might be conducted by the Directorate of Statistical Control (regardless of the command jurisdiction which the TTC nominally would have over it).⁴ But facilities were not available there. Contact was made again with the representatives of the Harvard School of Business Administration, who appeared to be genuinely interested in the AAF statistical control program. If Cambridge was remote from Washington, so was Southern Pines, North Carolina. And the faculty at Harvard would look to Statistical Control at Headquarters AAF for their instructions, whereas a school at Southern Pines would be in too close proximity to Headquarters TTC, which appeared to have the idea that the institution would be operated

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in connection with the 8th Replacement Control Depot and the G-1 Section of their Headquarters.

The contract which was negotiated with Harvard for instruction and housing immediately ran afoul of the Air Judge Advocate, who asserted that it was not a valid agreement under the statute which was invoked to authorize it, Public Law No. 18 of 3 April 1939. According to the Air Judge Advocate, the proposed course of study could not be construed as "instruction and training in aviation," or in "specialties incident to aviation," the type of instruction envisaged in the statute. If the terms of this contract were allowed to stand, Congress might criticize the AAF for unauthorized expenditure of public funds. It would be possible, however, to rest the contract upon Section 127(a) of the National Defense Act (44 Stat. 705; U. S. C. A. 10: 535) as amended by Public Law No. 435, 77th Congress, 6 February 1942, according to which not more than two per cent of the officer and two per cent of the enlisted strength of the Army of the United States might be detailed as students at technical, professional, or other educational institutions, or in certain other capacities. The statutory basis of the contract was changed accordingly, and with other minor amendments, the contract was executed as of 25 May 1942.⁵

Of whom should the student body be composed? Should they be officers? This possibility was considered at first but was soon discarded presumably because officers with the requisite background and aptitudes would be too scarce. They would have had to be commissioned in large numbers from civilian life, a course contrary to Army policy. By the latter part of April it had definitely been decided that the school would be an officer candidate school

--all students would be chosen from the enlisted ranks.⁶ As in the case of other officer candidate schools, entrants would be required by Army regulations to have had three months' preliminary basic military training. At first, Statistical Control and the Director of Individual Training thought one month's basic training would be enough for a statistical officer, and tried to have the regulations revised to that effect; but they changed their minds even before they had secured a ruling from the War Department.⁷

There was, however, a marked divergence from Army practice in the length of training as officer candidates given members of the first class of the Statistical School. Whereas 12 weeks were required to train a second lieutenant at other officer candidate schools, the course at the Statistical School lasted only 5 weeks. G-1 and G-3 of the General Staff objected. Consequently, it was agreed that the first class would receive their commissions, not by reason of having completed the prescribed course for officer candidates, but by reason of special qualifications; all succeeding classes would have to take six weeks' preliminary instruction at the AAF Administrative Officer Candidate School at Miami Beach, Florida, before reporting to the Statistical Control School.⁸

The first class which had entered on 8 June 1942 had been procured from the various Replacement Training Centers of the TTC.⁹ It was decided, however, that succeeding classes should include students obtained from all the commands and air forces according to quotas determined by the TTC. This was the method used to select the officer candidates of the Administrative OCS. The quotas allotted the various commands for the latter were now increased to

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allow for the transfer of 150 officer candidates from Miami to Harvard every six weeks.¹⁰

The transfer was to be made up of volunteers, but it did not follow that any man who had gone to Miami with the object of changing over to the Statistical School might do so. That depended on whether he had, in the course of his education or experience, shown ability in statistics, economics, accounting, business administration, finance, commerce, or related subjects.¹¹ In addition, his application for transfer was subject to the review of a Procurement Board including one member of the Statistical Division, one member of the Statistical School faculty, and the Miami classification officer. After it had become evident that college-trained men did better work at the Statistical School than non-college-trained men, the policy adopted was to select no more candidates with only high school training unless they appeared to possess outstanding ability. Experience also revealed that men with AGCT scores under 120 would probably fail the course. In the selection of candidates, therefore, this factor was kept in mind too.¹²

The Board ruled on personality as well as academic qualification of the candidates. Statistical Control rejected a suggestion, made by both Headquarters AAF and the General Staff, that statistical officers be selected from Army Specialists Corps personnel on the ground that the latter could not be expected to work under combat conditions as was planned for statistical officers.¹³ Similarly, since statistical officers were intended to occupy posts of leadership at their headquarters, they must have demonstrated personal qualities which would enable them to do this.

In order to advertise the school, the Director of Statistical Control

in June 1942 wrote to the commanding officers of the several SCU's, requesting that they bring the statistical course to the attention of qualified personnel in the commands they served.¹⁴ Early in August, The Adjutant General distributed a letter to all commanders to whom quotas for the Administrative OCS had been allotted, advising them of the procedure to be followed by men who desired entrance into the Statistical School.¹⁵

Even so, it would have been impossible to obtain from the Miami student body 150 of the right sort of candidates for statistical officers every six weeks if the choice had been limited to men who had entered the OCS with intentions already formed of transferring to Harvard. Indeed, among the Miami student body as a whole, haziness and absolute misconceptions existed about the nature of the statistical officer's duties. Accordingly, in October 1942 the Directorate sent a leaflet describing the training and the functions of the statistical officer to be circularized among the students.¹⁶

The duties of the statistical officer are such that the assignment is one of the most interesting which a junior officer can be fortunate enough to secure. The statistical officer is the 'eyes and ears' of his commanding officer in that he secures and presents information regarding all aspects of his unit and its activities He is the only junior officer who has the details of the entire unit's activities at his command.

Early in the following spring the Procurement Board expressed dissatisfaction with the quality of the candidates interviewed at Miami Beach, and declared that even yet few of them knew what statistical control or the Statistical School was about.¹⁷ Another circular describing the statistical officer's assignment in greater detail was

sent to Miami Beach.¹⁸ Upon the demand of the Statistical Control Division, the commanding officer of the Miami OCS agreed, in June 1943, that his students should receive early in their course one hour's instruction in the organization of the statistical control system and the function of the AAF Statistical School.¹⁹

In August 1943, at a conference between representatives of the Miami OCS and the Statistical School concerning the shortage of students qualified to take the statistical officer's course, it was agreed that "continuation of existing high standards of achievement by statistical management control officers depends upon the discovery and development of new sources of qualified personnel."²⁰ The solution of this problem became all the more urgent when a reduction was anticipated in the total number of the personnel available for officer candidate training. The Chief of the Statistical Control Division wrote the commanding officers of the SCU's in December 1943 that there was a possibility that the Administrative OCS or the Statistical School or both might be discontinued within a few months. If they knew of any good men who had applied or expected to apply for admission to the OCS, he added, it would be well to make every effort to enter them as soon as possible.²¹ Apparently some of the SCU's responded to this appeal with an excess of enthusiasm. The Procurement Board which met in Miami the following February thought the qualifications of several of the candidates sent by the 15th SCU were weak. That unit was advised to instruct detachment commanders to be more discriminating in choosing enlisted men for the Miami OCS. If this were not done, the Procurement Board would be put into an embarrassing position, for the OCS took the view that the Board

ought not to reject any candidates who had been recommended by an SCU or one of its detachments.²² Neither the Administrative School nor the Statistical School was discontinued, but a drastic curtailment did occur in 1944 in the number of students admitted to both. This was a result of the over-all reduction in the number of AAF trainees made to conform to revised program requirements.

At the time of the establishment of the Statistical School, it was estimated that a total of 1,200 graduate statistical officers would be required,²³ and it was expected that this number would be trained within a year. Long before the end of a year, however, it became evident that 1,200 statistical officers would not satisfy the needs of the AAF. In April 1943 Statistical Control estimated that 1,175 officers in addition to the 1,436 on hand (including both graduates and non-graduates of the Statistical School), would have to be trained by 31 January 1944.²⁴ Therefore, the contract with Harvard, which was to expire in May, was renewed with a supplemental agreement dated 13 April 1943.²⁵

In August 1943, because of an increase in the term of the Administrative OCS from 12 to 16 weeks, the term at the Statistical School was lengthened to 8 weeks. An entirely new contract was negotiated with Harvard.²⁶ Until June 1944, the average number of students in the school at one time remained approximately the same as before, but a new term began, and a new class entered, every four weeks.

Toward the end of February 1944 Statistical Control began negotiations with Military Personnel in respect to the quota which would be allotted to the Statistical School under the curtailed AAF training program. Statistical Control insisted on receiving 35 candidates a month

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from Miami. Military Personnel thought 27 would be sufficient.²⁷ Even the smaller figure seemed likely to vanish when it was proposed, in March, to reduce the monthly admission rate of the Administrative OCS from 700 students to 100. According to Statistical Control, experience had shown that not more than 10 per cent of the members of recent OCS classes had been eligible for attendance at the Statistical School. The Division made a counter-proposal that a separate monthly quota of 40 officer candidates, earmarked for the Statistical School at the time of their selection in the field, be included in the proposed monthly admission rate of the Miami School. The figure stated would allow an elimination rate of 10 per cent.²⁸ Since Military Personnel did not concur, Statistical Control brought forth a quite different plan which was finally agreed upon. This provided for the training of officers as well as officer candidates at the Statistical Control School. The original decision not to train officers there had met with the approval of the commanding officers of the SCU's, who liked to promote personnel from within their organizations and would have felt embarrassed if they had been assigned recent products of the Statistical School course who were of higher rank than more experienced statistical officers already in their organizations.²⁹ However, the drying up of the usual source of trainees forced the decision.

As a matter of fact, a certain number of officers had already taken courses at the Statistical School, even before the procurement plan of 1944 went into effect. The first known instance of such a case was that of a base statistical officer who in February 1943 desired to take a short course in combat statistics, so that he might in turn teach statistical officers and their clerks

enough to enable them to perform their duties efficiently in a theater of operations.³⁰ This request was granted. By the summer of that year, many officers were going to the school for two-weeks' courses, as a result of a new policy raising the standards demanded of personnel who had been assigned as statistical officers without having gone through the Harvard course.

The plan of 1944 provided for the admission to the school as student officers those who were not already statistical officers and whose statistical training would cover the same ground as that of the officer candidates. It had first been intended to instruct the two groups separately, the officers to finish in six weeks because they would not be required to endure military training like the officer candidates. But the program had to be simplified so that the instructional facilities of the school could be extended to cover a new AAF contract renegotiation course which was being set up simultaneously at the School of Business Administration. A single eight-weeks' program for both student officers and officer candidates was established. A combined quota of 60 (later reduced to 50) officers and officer candidates was set up for each class, the first combined class being scheduled to enter about 11 July 1944. Within the quota, officer candidates might number as many as 35. During the fall, the size of the Administrative OCS, which was moved to San Antonio, Texas, was again drastically reduced so that the number of officer candidates furnished to the Statistical School shrank to an average of six per month. Thus from the fall of 1944, the AAF Statistical School became primarily a school for officers rather than an officer candidate school.³¹

From the first, the principal source of officer trainees was the

Personnel Distribution Command, although applicants from other commands and air forces were by no means excluded. The arrangement at the close of 1944 was that approximately the same number of officers would come from the field commands and air forces as there were candidates from OCS. Returnee officers volunteered for the training and were passed on either by the Chief of the Statistical Control Office of the Distribution Command or by the statistical officers at the Redistribution Centers. The first contingents of considerable size from the Distribution Command, entering in August and September, were not properly screened. Steps were taken therefore to insure that the returnee officers attending the school would not be men who were simply looking for something less unpleasant than the other alternatives open to them.³²

As usual, Negroes and women were given lowest priority. Statistical officers for Negro organizations were trained at the Statistical School, partly in field organizations.³³ The question of training WAC statistical officers arose early in the year 1944, when the IV Fighter Command requested that it be permitted to assign WAC officers to attend classes at the Statistical School.³⁴ Both this request and a similar one made later in the year were turned down by the Statistical Control Division, presumably because a WAC officer would not be likely to have the prestige which a statistical officer was expected to possess in his own headquarters.³⁵ For its own part, Harvard University, conforming to a long-established tradition of that institution, was adamant against coeducational instruction, even in an Army school, though it might have considered giving instruction separately to WAC officers.³⁶

Between its inception and 30 April 1944, almost at the end of the period

when the full course was given only to officer candidates, the school graduated, and commissioned 2,072 statistical officers, while 136 were eliminated.³⁷ The school closed on 6 October 1945, graduating a final class of 40 officers. The total number graduated had risen to 3,106, with the elimination rate approximating 6 per cent.³⁸

The AAF Statistical School Course

No training directive was issued for the AAF Statistical School until more than a year after its establishment, at the time of the consolidation of the Technical and Flying Training Commands. The directive issued then simply stated, with reference to the academic course, that this course would be prescribed by the Director of the School.³⁹ This was what the Director had done from the beginning, in consultation with the Statistical Control Division. At no time did the Training Command or either of its components have anything to say about the curriculum or its objectives.

The primary purposes of the Statistical School course were two. One was to teach the statistical control reporting system and its function in the AAF. As the faculty of the school envisaged it, this required teaching the organization and administration of the AAF from squadron level on up to the highest echelon. The other objective was to develop within the student certain analytical skills which would enable him to increase the operating efficiency of the organization to which he would be attached.⁴⁰ In other words, the Statistical School course was not so much a course in statistics as in the making of a statistical officer. The propagation of the concept of the statistical officer as a kind of efficiency expert for command headquarters owed perhaps more to the faculty of the Statistical School

than to any other single agency, for while they did not originate it, they built up the curriculum around it, and sent their students out to the field as missionaries for that idea.

The course was made as realistic and the materials of instruction as concrete as possible. These materials were gathered directly from the field. Virtually the entire faculty spent the three weeks prior to 8 June 1942--the date on which the first class entered the school--at Headquarters AAF or at various field command headquarters.⁴¹ Such field trips became routine. Sometimes the faculty went out in the capacity of special consultants, visiting the headquarters of the commands and air forces as representatives of the Directorate of Statistical Control. Sometimes they simply went out to gather data. About one-third of the staff was always in the field. This did not mean any interruption of the teaching schedule, because almost any member of the staff was competent to teach any part of the course. The only specialization to be found was in a division of the responsibility for gathering the material and making up the problems in different subject-matter areas, such as personnel, supply, and statistical methods.

The frequency of the field trips was necessitated by constant changes in field conditions and procedures, which in turn required that the problems used for classroom instruction be continuously rewritten. For these problems actual figures were secured, then disguised somewhat for security purposes. The faculty believed that in studying the control of AAF activities it was necessary to go to every operating level to prevent instruction from becoming too theoretical. When the question of the advisability of securing military rank for the Statistical

School staff arose, it was decided that their freedom as civilians to talk to any one at any echelon of command would be seriously curtailed if they became members of the military hierarchy, and they therefore remained civilians.⁴²

With the introduction of the contract renegotiation course at the School of Business Administration in the summer of 1944, military instructors who were experienced statistical officers were substituted almost entirely for the former civilian staff, who were transferred to the new course. Arrangements were made for the military instructors to undertake the same sort of field trips as the civilian staff had been accustomed to making, but no evidence is available to show whether military rank proved to be the handicap that the civilian staff had anticipated.⁴³

In making up the curriculum, the school endeavored to prepare its graduates in some degree for any assignment, and to furnish them with a general understanding of the operation of the statistical control system throughout the AAF. A realistic approach demanded, however, that command problems should be considered in some detail, and since the functions of the commands varied widely, and since it was impossible to cover them all, a selection had to be made. Because the great majority of the graduates were assigned to the AAF, the problems emphasized in the curriculum were AAF problems.⁴⁴ Every category of report was included in the curriculum from the beginning, but there were shifts of emphasis corresponding to changes in the reporting system as a whole, to changes in the availability of teaching materials, and to the growth of the feeling within the statistical control organization that statistical officers ought not to be associated in the minds of their commanding

officers only with personnel reporting.*

Whereas personnel reporting took up over 50 per cent of the time allotted to academic subjects in 1942, after August 1943 it took up only about 20 per cent. When the Statistical School began to train officer candidates, personnel reporting was the major activity of the statistical control system, and classroom materials relating to materiel and combat statistics were difficult to obtain.⁴⁵ After the institution of Form 110 in the autumn of 1942 and again when the Form 34 reports of combat operations began coming in in the spring of 1943, more materials on aircraft and operations could be worked up.⁴⁶ In July 1942, about 9 per cent of the total time was devoted to supply and engineering; after August 1943, this had risen to 17 per cent. Since the supply reporting system of the ASC was undergoing the preliminary stages of a reform in 1943, the new supply directives, in the writing of which the Statistical School faculty had a part, provided the school with the nucleus for an engineering and supply syllabus. A further reason for the importance assigned to supply and engineering in the revised curriculum was the fact that, in 1943, the ASC supply systems were absorbing one-third of the graduates of the school.⁴⁷

After the change-over from what had been a course for officer candidates to a course in which the great majority of trainees were officers with combat experience, it was found that the students knew a great deal more about operations and somewhat less about both personnel and supply than officer candidates had known, and the curriculum was again modified to take care of this situation.⁴⁸

*The course of study as it was given in July 1942 and in August 1943 is printed in Appendices 1 and 2.

The lengthening of the academic course of study from five to eight weeks was a reform which the faculty had long desired, both because it would give the students more time to assimilate the materials presented, and because it would provide more opportunity for the teaching of analysis. While statistical methods and graphic presentation were in July 1942 allotted only 11 hours, after August 1943 they were given 20 hours. But there was another way in which the amount of attention given to analysis and presentation could be extended in a longer course of study. The general teaching procedure was first to introduce students to the problems of staff officers so that the students themselves could appreciate the value of statistical reports. The next step was to teach a particular form or report--that is, to teach the mechanical phases of it. Out of this was developed the third step, the discussion of the uses to which the data might be put and the possibilities it might have for analysis. The lengthened program permitted more time to be devoted to the third step in the teaching process.⁴⁹

Analysis and presentation were the most difficult phase of the work, and yet mastery of these skills was essential if the statistical officer were to perform the staff services expected of him in the statistical control system. At the school, graphic rather than tabular presentation was emphasized. In April 1943 the faculty, in collaboration with officers from various tactical groups at AAFSAT, designed certain standardized "grids" for use as teaching aids. The school gave each man a collection of "grids" to take along with him into the field upon his graduation. So popular did they become that they were used extensively at all levels of command, both in the Zone of Interior and overseas.⁵⁰

The students' tools consisted of batches of mimeographed directives, forms, syllabi, and problems. Lecture was the least-used teaching method, being employed chiefly for imparting general instruction to the class.⁵¹ Outside lecturers, such as representatives of the Statistical Control Division or the commanding officers of SCU's, were sometimes invited to address the student body. Discussion and laboratory methods of instruction were those most commonly used, since classes were small enough to permit this type of procedure. The case method was employed to give students experience comparable to that which they would encounter when they were on their own and to provide that kind of training in inductive thinking which advocates of the case method feel is paramount in the learning process. However, the extensiveness of the curriculum in relation to the time available for it precluded the use of the case method exclusively.⁵² Field trips to nearby installations were used to give students with little or no experience on a typical base greater familiarity with the kinds of conditions under which they would operate as statistical officers.⁵³ There was no emphasis on memorization as such. The school attempted to teach a method and a general comprehension of the operational and administrative problems of the air forces rather than a detailed body of information about reports.

The substitution of military for civilian instructors late in the summer of 1944 made no difference in the kind of instructional procedures employed.⁵⁴ The innovation of mixing student officers and officer candidates, which was introduced at the same time, apparently had been regarded with some trepidation. The difference between the officers' background of combat experience and the background of officer candidates

who had never been overseas actually proved to be a stimulus to class discussions. The faculty of the school had in fact always tried, in order to get varying slants on a particular problem, to bring into the discussions as many different kinds of experience as possible, but hitherto they had not been able to use combat experience.⁵⁵ The difference in background did, however, create a teaching problem in that men who had seen combat tended to have certain assumptions about the relative importance of things which men who had not had this experience did not have. Returnee officers, with all their experience, did not know much about staff and planning work in higher headquarters, and they tended to believe that the practices of their group or air force were universal. The instructors had to be sufficiently well informed about the activities of all theaters to be able to bring these students to see matters in proper perspective.⁵⁶

On-the-Job Training of Statistical Officers

Initially, statistical officers were procured entirely through the assignment of available reserve officers and the commissioning of civilians who possessed suitable training and experience.⁵⁷ This was true with respect both to the commanding officers of SCU's and statistical officers who had lesser responsibilities. But no great number could be got directly from civilian life, and a great many were needed. The AAF Statistical School began turning out officers in July 1942, but even then it was not anticipated that the supply would catch up with the demand until a year had elapsed. The needs of the expanding statistical control system had meanwhile to be met by the assignment of considerable numbers of

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officers who were not graduates of the Statistical School to the position of statistical officer. Even if some of these men had had some civilian experience which provided a good background for their new responsibilities, they were seldom statisticians, and they were not acquainted with the AAF Statistical Control reporting system. Such officers had to be trained on the job, under the supervision of the SCU which proposed to use their services. For example, the 6th SCU, which by December 1942 had received only one graduate of the Statistical School, was from time to time assigned officer trainees by Headquarters Southeast Training Center. For a period of seven to ten days these officers would remain at the SCU, studying, under the guidance of a more experienced officer of the unit, the regulations governing the reports which the SCU handled and actually assisting in their preparation. Upon the conclusion of this short term of training, the officers were assigned to stations as post statistical officers. On 5 December 1942 the 6th SCU reported that over an eight-months' period it had trained and sent out 35 statistical officers, all of whom it said were doing satisfactory work.⁵⁸ A couple of months later the SCU said that it proposed to recall these officers to headquarters for a brief refresher course.⁵⁹

The Statistical Control Division early in 1943 proposed a revision of AAF Regulation 20-2 relating to statistical officers which would, among other things, stiffen and standardize the minimum requirements for statistical officers who had received their assignments without having first taken the Statistical School course. The stated requirements were to be: experience or education in statistics, economics, accounting, business administration, finance,

commerce, or closely related fields; performance of the duties of statistical officer in the organization for a period of not less than 60 days; recommendation to the A-1 or equivalent staff section of the air force or similar command by the candidate's commanding officer within 15 days after the completion of the 60-day period. If non-graduates of the Statistical School who were performing the duties of statistical officer were to retain that classification, they would have to be recommended by 1 May 1943.⁶⁰ Following the recommendation of the aspirants' commanding officer, there would be an interview by a member of the responsible staff section and the commanding officer of the SCU, and indoctrination for at least one week in the SCU at the command headquarters. Upon completion of the last phase of this training, the officer would be returned to his unit as a statistical officer, qualified for duty in either the Zone of Interior or overseas.⁶¹

The Statistical Control Division estimated that of about 800 non-graduates of the Statistical School who in April 1943 were acting as statistical officers in the Zone of Interior, not over 50 per cent would qualify under the provisions of the Regulation.⁶² As matters turned out in the Technical Training Command, the effect of the Regulation was to reduce the number of non-graduate statistical officers from 189 on 27 January 1943 to 86 on 19 May 1943; in the Flying Training Command in the same period the number was reduced from 308 to 193.⁶³

It was not expected that any considerable number of new statistical officers would be taken into the system by way of on-the-job training; the intent of the regulation was rather to secure most new statistical officers by way of the Statistical School. There were two principal

objections to on-the-job training. One was that it was conducted exclusively in terms of the reporting interests of the command to which the trainee was assigned, and therefore failed to give a broad understanding of the more general problems of the AAF. In particular, officers trained on the job in the Zone of Interior would not ordinarily be familiar with operations reporting, and thus not especially suited for reassignment overseas. The other main objection was that on-the-job trainees did not receive the instruction in statistical analysis and presentation which was emphasized at Harvard and which was, as has already been pointed out, important if the statistical officer were to carry out the advisory staff functions envisaged as a part of his responsibilities. It was at least partially to overcome these disabilities of the statistical officer trained on the job that the short courses held for them at the Statistical School were instituted in 1943.

Indoctrination of Statistical Officers

Some on-the-job training was designed, not as a substitute for the Statistical School course, but as a supplement to it. This was the "indoctrination" of recent graduates in the work of the SCU to which they had been sent for assignment. It lasted about a week, on an average, and resembled the on-the-job training which the 6th SCU gave in 1942 to non-graduates of the Statistical School before assigning them to the field as statistical officers. Possibly it was suggested by such training. It developed spontaneously in certain of the organizations to which the first graduates of the Statistical School were assigned, particularly the 4th SCU in the

Fourth Air Force and the 16th SCU in the Air Transport Command, and was enjoined by the Statistical Control Division upon all other SCU's as a regular procedure.⁶⁴

Indoctrination of Statistical School graduates destined for assignments to overseas SCU's was not feasible in SCU's attached to the continental commands and air forces, because of the differences in purposes and procedures of the reporting system in the Zone of Interior and in theaters of operations. It might have been left to the overseas SCU's themselves, had not the Statistical Control Division desired to use it as a means of extending its technical supervision over the overseas reporting system. Whereas indoctrination for the Zone of Interior signified specialization in the reports of particular commands, for overseas theaters it signified standardization and uniformity. Indoctrination for statistical officers going overseas was carried on at the Overseas Replacement Training Center, Seymour Johnson Field, Goldsboro, North Carolina,⁶⁵ and at the 18th SCU, attached to the School of Applied Tactics in Orlando, Florida.⁶⁶

Training of Machine Officers

In the fall of the year 1942, when the SCU's began to secure some IBM equipment, they were somewhat at a loss for supervisory personnel.⁶⁷ The consolidation some months later of the SCU's and the MRU's brought the officer personnel of the latter under the jurisdiction of the AAF.⁶⁸ Simultaneously, Statistical Control took steps to secure for the AAF a continuing supply of new officers who were graduates of The Adjutant General's OCS at Fort Washington, Maryland, which had been concerned in machine records training for more than a year.⁶⁹ Provision was made to

procure the candidates destined for the AAF from qualified personnel assigned to SCU's at command and air force headquarters to which MRU's had formerly been attached.⁷⁰ It was only at such headquarters that a sufficient supply of personnel would have been found at that time who were familiar with the mechanical processing of both The Adjutant General's and the Statistical Control reports.

Early in 1945 arrangements were made with the IBM Corporation to hold at frequent intervals three separate short courses of instruction for AAF machine operations officers. There was to be a one-week course for machine operations officers, reviewing the basic principles of management and operation of a tabulating section in an SCO, and providing occasion for the exchange of ideas on operations. Another one-week course was designed for chiefs, assistant chiefs, and section (other than machine section) chiefs of mechanized statistical control offices, and was to consider the use of tabulating machines from a management viewpoint. The third course, three weeks in duration, was to consist of tabulating machine procedures and operations, and was designed for officer personnel selected from field statistical control offices who would be returned to the commands sponsoring them as assistant machine operations officers. Some of the first class in this group were also taken directly from the AAF Statistical School.⁷¹

Training of Enlisted Personnel

The only considerable problem in connection with the training of enlisted personnel for SCU's was the procurement and training of tabulating machine operators. The continental SCU's were operated continuously from the time they were

first mechanized as training centers for enlisted personnel. The policy of securing an assignment of surplus personnel to the SCU's for training in clerical work and the use of IBM equipment, so that they would be available to form the cadres of newly established Units, was begun by the Directorate in November 1942.⁷²

Trainees were at first procured simply by having the commanding generals of the various air forces and commands in the continental United States search their status files for men with civilian experience as machine operators and transfer them to their machine units for training.⁷³ Late in 1943 the Statistical Control Division made an arrangement with the War Department and the Training Command whereby approximately 40 men per month having civilian experience as key punch and tabulating machine operators and repairmen would be assigned to the AAF upon induction. These men would report immediately for training to various SCU's within the Training Command⁷⁴ to tap the supply of qualified personnel at the source.

WAC enlisted personnel were also used as key punch and tabulating machine operators. The first request by the Directorate for women was made early in September 1942,⁷⁵ but it was denied by G-1.⁷⁶ Early in 1944, however, permission was secured to train WAC clerks and machine operators, at the rate of 35 every two weeks, the course of instruction to last six weeks. The location of training was to be the 18th SCU at the Tactical Center.⁷⁷ In the program for 1945, the quota was reduced. Approximately 15 enlisted WAC's were to be received each month from recruiting stations and 10 from the various air forces and commands.⁷⁸

In-unit training was not the only kind given to enlisted personnel. At the time of the consolidation of

the MRU's and the SCU's, The Adjutant General, who had trained the MRU personnel, was asked to furnish the AAF a monthly quota of Machine Records School graduates.⁷⁹ About 30 trained operators a month were received from this school from March to October 1943, after which the allotment was discontinued on the ground that all graduates were needed in The Adjutant General's personnel reporting system.⁸⁰ Statistical Control also made an arrangement with the IBM Corporation to train 30 or 35 operators a month at their offices throughout the country, beginning in February 1943.⁸¹ A major departure in selecting machine operators was made in 1944, when the AAF established an IBM school at the Tactical Center, Orlando; it was the first formal school for machine operators (all personnel having hitherto been trained by the IBM Corporation or having had IBM experience).

When machine operators were needed overseas, the policy usually employed was to send experienced personnel and replace them with newly trained operators.⁸² The training of key punch operators specifically for overseas duty was inaugurated in 1944 on an intensive and specialized basis, to last about two weeks and to be held at the Statistical Control Office of the Air Service Command at Patterson Field (especially for personnel for the new air force service command overseas SCU's), at the Statistical Control Office at the Tactical Center, and at Bolling Field, where a training unit was established by the IBM Corporation.⁸³

Assignment of Statistical Personnel

The demand for statistical officers trained at the Harvard School was always greater than the supply. At the very beginning, priority was given tactical organizations. Of the

first class of 144 graduates, one was assigned to each SCU in continental United States, one to Headquarters AAF, and the rest to combat organizations being prepared by the several air forces for continental defense or overseas shipment, as well as to certain mapping, photographic, and troop carrier groups.⁸⁴ Statistical officers from this class established the first overseas SCU at the headquarters of the Fifth Air Force in Australia.⁸⁵ The first sizable contingent allotted to a non-tactical organization went from the second class to the Air Service Command at the time of the establishment of the 15th SCU.⁸⁶ In general, however, priority continued to be given to combat organizations.

AAF Regulation 20-2 was the general directive governing the assignment (not the allocation) of statistical officers. As first issued on 2 February 1942, it stated that a statistical officer would be assigned to each squadron and to the headquarters of each higher echelon. This policy was modified in March 1943, when it was decided that statistical officers would no longer be assigned to squadrons which were part of a group, nor to separate squadrons or organizations except as indicated in the regulation. The lowest operating echelon to which a statistical officer would thus normally be assigned was the group headquarters. The group headquarters of all combat groups were authorized two statistical officers; those of all service groups, one officer. Separate tactical squadrons were authorized one officer, and airdrome squadrons one. One or two were allotted to base headquarters and air base squadrons. Air and water ports of embarkation might have two. Technical training, basic training, or overseas replacement centers might have one or two. A wing headquarters, except in Flying Training,

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was authorized one, as were, respectively, the tactical command headquarters and the separate air force or similar command headquarters. No specific number was authorized for Statistical Control Units or detachments.

With regard to the control of assignments, the regulation as first issued had been vague, limiting the authority of the commanding officer to employ the statistical officer, but providing no check. The revised regulation provided that within air forces and similar commands the assignment of statistical officers should be by the A-1 or equivalent staff section, with the aid of the commanding officer of the SCU; this also applied to reassignment between units under the same jurisdiction. Reassignment between separate air forces and commands became the responsibility of AC/AS, Personnel, Military Personnel Division, in coordination with AC/AS, Management Control (the Statistical Control Division of Management Control). These provisions effectively put the control of assignment within the statistical control organization, at least for the Zone of Interior. Overseas, various theater directives safeguarded the statistical officer from malassignment.⁸⁷

In filling requests for highly specialized and important positions, the Division recommended individuals by name. Most of the requisitions upon the continental SCU's in the latter part of the war were intended chiefly to provide officers for duty overseas. Since it was thought necessary to send the best available personnel to the theaters, knowledge of the individual abilities of the statistical control officers became more important than ever. It was especially important to the system that the very best men occupy the key positions; consequently, it would be understandable if the division had insisted more often that personnel be assigned by name rather than by MOS.

There was nothing personal or individual about the assignment of enlisted personnel. It followed regular procedures. Statistical Control did insist that requisitions made by AC/AS, Personnel, upon the continental commands to fill the requirements of overseas theaters be first coordinated with the Statistical Control Division, so that the efficiency of field units would not be impaired by the withdrawal of too many persons at a time from any one SCU.⁸⁸

Chapter 6

THE STATISTICAL CONTROL REPORTING SYSTEM

Procurement of the Basic Data

The term "report" has been commonly but ambiguously used to denote both the forms in which source data were collected and the summaries and analytical studies which were made from those data. Without the summaries and analyses the basic-data reports would have had no meaning. On the other hand, the validity of the analyses depended upon the accuracy of the basic data. One of Statistical Control's most significant contributions to the development of AAF logistics, if not its most significant contribution, was the method which it devised for the procurement of the basic data.

One essential feature of this method was the monitoring and transmission of the basic-data reports by field agencies, the Statistical Control Units, which operated under the technical supervision of the Statistical Control Division at Headquarters AAF. A second essential element was the control which the Division established over the content of the basic-data reports, whether they came in to Washington as detailed reports or as command summaries, and whether they were "standard" or non-standard in type.

Standard reports were instituted by formal AAF regulations. Their submission was required generally throughout the air forces and commands.* They originated at a lower echelon, normally the squadron, where

*All the standard reports but one, however, were prepared only in the Zone of Interior. That exception, Form 34, was prepared only in theaters of operations.

their preparation was prescribed by the regulations, and were then forwarded through the chain of command--each echelon retaining a prescribed number of copies--so that all echelons would have identical information. Their contents were also transmitted directly to the SCO servicing the command, which in turn transmitted to Washington by teletype whatever information the latter desired to have selected from the report. Non-standard reports were as a rule required from special kinds of organizations, one prepared at air force level, and one instituted, at least in the Zone of Interior, by formal directive. In the Zone of Interior, a very large percentage of the total of the source-data was comprised in the standard reports. Overseas, an essential standardization of source-data reporting was accomplished in that the data were comparable from one theater to another, but with the exception of Form 34, the combat operations report, there were no reports whose manner of preparation at lower echelons was prescribed from Headquarters AAF.

Personnel Reports

For the first three months after Pearl Harbor, effort to set up a controlled reporting system in the AAF was directed mainly toward the solution of personnel reporting problems. AAF personnel were being carried in the army-wide personnel reporting system operated by The Adjutant General's Office, but this was primarily a system of reports

on individuals. The principal records were: an Officer's Qualification Card (AGO Form 66-1);* a Soldiers' Qualification Card (AGO Form 20)--both containing information about skills, ability, and experience--the Morning Report (AGO Forms 1 and 2), a strength report of organizations by grade; and a change report on the status of individuals supplementing the individual personnel records. Until the AAF personnel reporting system got into full swing, the AAF leaned heavily on the AGO records; but the latter were neither accurate nor thorough, and, most important of all, they failed to provide the information which the AAF most needed at the time. A frequent, periodic statement which would indicate the status of AAF organizations by authorized and assigned officer ratings and enlisted military occupational specialties (MOS) was essential. By this means the flow of officers and enlisted technicians produced by the far-flung network of AAF training schools then being established could be directed where needed without waste or delay.

Accordingly, several standard AAF personnel reporting forms were designed and put into operation in the spring of 1942. The first and most important of these was Form 127, Weekly Report of Personnel Status (Air Corps Personnel Only), authorized by AAF Regulation 15-127 of 23 February 1942. The table for officers on the first Form 127 listed six categories--two-engine pilot, four-engine pilot, administrative officer, etc. For the preparing squadron it indicated the total authorized, total assigned who were fully trained, the shortage (that is, the difference between the two if the difference represented a shortage), the number present for duty, and attached unassigned personnel. The table for

enlisted men contained about a dozen broad categories of MOS's and indicated, for each category, total authorized, total assigned (both trained and in training), the shortage, and the number present for duty. Form 127 also had a column to be used by Air Corps schools, indicating the number of students in the various categories of both officers and enlisted men. Beneath these two tables was a third, showing the number of officers and of enlisted men by grade who were classified in each of five major "functional assignments": control (command and headquarters functions), personnel (records, mess, morale, security), materiel (supply, engineering, transportation), operations (training program, weather, photography, armament), and flight (combat crew training and operations).¹ All these tables were on the face of the form. On the reverse of the form there was a more detailed breakdown of both officer and enlisted specialties.

The report was to be forwarded by the station filling it out to the appropriate Replacement Control Depot. The data on the face of the form would then be teletyped to Statistical Control in Washington, where they would be furnished to the using Headquarters agencies. These data were intended to constitute a status and condition report which would indicate in a broad way, for management purposes only, the degree of combat readiness of the reporting squadrons.

Another use for the report was as a requisition for personnel. By use of the report, it was expected that personnel would flow automatically from training schools and replacement centers to the squadrons. The shortages of enlisted personnel reported on the reverse of the form, in greater detail than on the face, were to be teletyped to Headquarters TTC, where the required personnel would be

*First authorized by AR 605-90, 21 May 1942.

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directed to the units in accordance with priorities established by Headquarters AAF. Although detailed data on officers were not teletyped to Headquarters AAF, the flow of officer personnel was directed from there. The original copy of the entire Form 127 eventually reached Headquarters AAF.

This system was put into operation before all details had been worked out. One early omission on Form 127 which might have caused considerable difficulty in the working of the system was the lack of any specific provision for the recording of chain-of-command adjustment of shortages during the life of the first Form 127. The first revision of this form, under the authority of Regulation 15-127 of 28 April 1942, provided specifically for chain-of-command adjustments, with the *net remaining* shortages then sent, according to station and organization, to Headquarters TTC. In addition, there was now a column for surpluses. Thus the principle of automatic personnel requisition and replacement was logically completed, with Form 127 as its principal instrument.

Still another difficulty with the first Form 127 was that the breakdown of specialties proved inadequate either to indicate the degree of combat readiness of organizations and to establish priorities for the automatic flow of personnel or to guide the training program. Headquarters AAF needed more detailed information not only about officers (whose assignment to the units was done entirely from Washington), but also about enlisted personnel. There was some idea of teletyping to Washington the more detailed breakdown on the reverse of the form, but even this breakdown was inadequate to the needs of Headquarters AAF or the TTC, since it did not correspond to the specialties being produced by the schools. Accordingly, the list

of officer specialties on the face of Form 127 as revised in April 1942 was approximately doubled, and the list of enlisted specialties approximately trebled. At the same time tables were added showing the pilot experience of both officers and enlisted men, the number of enlisted men authorized and assigned by grade, and the operational training status of combat units. On the reverse of the form was a list provided purely for informational purposes in filling out the enlisted MOS table on the face of the form; it contained a further subdivision of specialties, so that the tabulator would have no difficulty in classifying the personnel of the squadron. There was henceforth no distinction, in detail, between the data which were teletyped to Headquarters AAF and those which went by teletype or telegraph to Headquarters TTC. Both received by electrical transmission data from the form only. They received the entire form later by a slower means of communication. The table showing major functional assignments, which had been devised by Colonel Burwell but had not been used by Headquarters AAF, was moved to the reverse of the form. It did not disappear entirely until the second revision.²

Meantime, other personnel reporting forms were being developed. Form 128, authorized by Regulation 15-128 of 23 February 1942 and entitled "Weekly Station Personnel Status Report," did for Arms and Services personnel assigned to AAF stations what Form 127 did for Air Corps personnel. It operated as a status report and personnel requisition in much the same way as Form 127, except that the TTC naturally did not figure in its use; the data on the form were teletyped to Headquarters AAF and handled there exclusively. The same ambiguity respecting chain-of-command adjustments of shortages, which characterized Form 127 was

found also in 128, and the same demand developed for a more detailed breakdown of specialty groups and for showing the number of enlisted men by grade. The revision authorized under Regulation 15-128 of 8 May 1942 included changes along these lines which were comparable to those made in the first revision of Form 127 and which stood until 1 July 1943, when Form 128 lost its separate identity and was incorporated in Form 127. The title of Form 128 was changed in the first revision to Report of Arms and Services Personnel Assigned to Army Air Forces. It was now to be made out not by station, but by all Arms or Services detachments or larger units assigned to the AAF within the United States.

Forms 125 and 126, first authorized by AAF Regulation 15-125 of 6 March 1942, were Air Corps Duty Assignment Cards for Officers and Enlisted Men, respectively. * They were not periodic reports but permanent records, resembling though not superseding AGO Forms 66-1 and 20. They were designed to meet the special needs of AAF organizations. Each card recorded the occupational group or job specialty of the officer or enlisted man to whom it pertained, the designations corresponding to the major assignment groups on the face of the first Form 127. It recorded also the job to which he was assigned and the date of assignment, (or of successive assignments) his training, rank, serial number, and pay status.

Early in the summer of 1942 it was proposed to revise Forms 125 and 126 and to revise Form 127 for a second time. The problem of classification of personnel was acute. One of the difficulties in classification was to secure a list of specialties which

corresponded accurately to the jobs for which men were being trained (the April revision of Form 127 had not been satisfactory in this respect). Another was to secure a correspondence between MOS and actual duty assignment. A third was to coordinate the classifications used in the AAF with those employed on the Adjutant General's personnel records, which at this time were relied on by Statistical Control for summary information on specialty strengths.³

Regulation 15-125, revised as of 15 September 1942, contained a list of AAF job titles, for both officers and enlisted men, which had been drawn up in conformity with new T/O's authorized for use in the AAF and with the job titles to be employed on AGO Form 20. The headings in this list also corresponded exactly to the new specialty listing on the second revision of Form 127, authorized by Regulation 15-127 of the same date (15 September 1942). This list was much longer than the previous one, for it contained 21 officer titles and 69 enlisted MOS's. It had been coordinated with every directorate in the AAF, as well as with The Adjutant General.⁴ Notwithstanding this precaution, the Materiel Command complained, when the revised form was put into effect, that certain specialists trained by it were not provided for on the form, with the result that it was impossible to determine where these specialists were stationed or to requisition them as needed.⁵ As an innovation on both Form 127 and the Duty Assignment Card, Form 126, Air Corps enlisted men were to be listed not only by actual duty assignment in a specialty, as heretofore, but also by the MOS in which they were theoretically best qualified to serve. As before, however, the shortage or surplus was the difference between total authorized and total assigned according to actual duty assignment.

*It should be pointed out that these two forms were sponsored and developed by Military Personnel. Because of their importance to certain of the Statistical Control reports, brief mention is made of them here.

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There was one other major change made in the personnel reporting system as revised in September 1942: the responsibility for filling the enlisted personnel requisition was shifted at this time from the TTC to Headquarters AAF, where it remained. Statistical Control would prepare shortage summaries for each air force and command which would be the official basis for determining their current requirements. Given these requirements, the air forces and commands would requisition the personnel directly from the TTC. There were two reasons for the change. In the very nature of its jurisdictional position, the TTC had not been able to make inter-command adjustments effectively. Again, a time-lag was involved in the process of getting to the TTC the reports from the field and the allocation of priorities from Headquarters AAF. The larger the AAF became, the longer grew the time-lag.⁶

During the winter and spring of 1943 the continental personnel reporting system of the AAF was given another and still more thorough revision. This was partly owing to the consolidation of the SCU's and the MRU's of The Adjutant General which were servicing AAF organizations. By midsummer of 1943 a consolidation of the basic individual records had occurred, AAF Forms 125 and 126 having been replaced, respectively, by AGO Forms 66-2 (successor to 66-1) and 20. The latter were not processed for The Adjutant General by the SCU's.

Another reform was the consolidation of Forms 127 and 128. Form 127 became the single over-all personnel report, but was composed of two sections: 127A was to be used by all Air Corps organizations, and by ASWAAF organizations when the latter were separate operating units; 127B was to be used by ASWAAF organizations which were

not operating separately, but which were incorporated as sections in larger Air Corps or Arms and Services organizations. As many as seven different Arms and Services sections could be reported on 127B, whereas on 127A there was no provision for such subdivisions within the reporting organization. A radical departure in connection with the new Form 127 was the disappearance of pre-printed family groups of job specialties. Instead, the specialties authorized and assigned to the organization for which the report was being made out would be typed in with the aid of a master report of authorized specialties to be issued by each air force or command to the organizations under its jurisdiction. Specification serial numbers (SSN's) would be obtained either from this master report or guide, or from AR 605-95 and AR 615-26. This innovation was designed to give greater flexibility and precision to personnel reporting.

Another reform aimed at reducing the malassignment of personnel. Form 127 prior to the revision of July 1943 had indicated the total number assigned in a given specialty and the total number of those classified in it, but there was no way of knowing how many malassignments these figures represented. Accordingly, the duty-assignment column of the new form was divided into two parts, one showing the number classified in a given specialty but working in some other, the other showing the number working currently in that specialty. Together with the column on total number classified in that specialty, the duty-assignment columns now provided some check on the number of malassignments.

An entirely new and significant tendency toward the relegation of detailed reporting to the field was manifest in the 1943 revision of Form 127. Reporting was to continue

to be on the basis of the squadron or company, unless the air force or command, with the prior approval of Statistical Control, wanted to substitute consolidated reports from a higher echelon such as the group or battalion; but no copy of the report was to be mailed to Headquarters AAF, and only the data which Statistical Control might require under supplementary instructions were to be transmitted by teletype. At first a complete report was transmitted, but on 31 October 1943 summary reporting was initiated, which was complete and accurate without reference to individual organizational reports. Whereas headquarters had formerly been receiving a Form 127 from a squadron, it would now receive what amounted to a 127 from the command or air force as a whole. Finally, the report was to be made henceforth only on a monthly basis.

All the foregoing changes in Form 127 had been authorized by Regulation 15-127 of 1 July 1943. A year later the form was again changed to develop a still greater flexibility to meet the constantly changing requirements of Headquarters AAF and the differing requirements of the commands and air forces. In Table I, Inventory of Personnel by MOS, neither the job titles nor the columnar headings of the data to be secured were pre-printed; in Table II, Inventory of Personnel by Grade, the grades were pre-printed, but the columnar headings for data were not. Four additional tables, with neither titles nor line nor columnar headings, were simply called "Miscellaneous Data." The data required by Headquarters AAF, the commands, and the air forces would be indicated by them in periodical supplementary directives and in reporting guides. The number of SSN's which it was now possible to report was approximately 500, a reduction from the 1943 total. Some

thought that it could profitably be reduced still further. There was no longer any division into Forms 127A and 127B.⁷

It is apparent that between 1942 and 1944 personnel reporting tendencies in the AAF in a sense reversed themselves. The first trend was toward highly centralized supervision and extreme conformity and rigidity in reporting. This was because Headquarters AAF wanted detailed data and because controls over field reporting had not been perfected. The high point of the tendency was reached about the close of the year 1943. Then came a tendency toward the decentralization of reporting functions and flexibility in the forms and the requirements for data, along with a decrease in reporting frequency. This was because the emphasis at Headquarters had shifted to over-all program planning and because the controls established over field reporting had been carried to the point where decentralization of functions was feasible.

In connection with the emphasis on program planning and control, the development of the Troop Basis as an over-all program control device should not be overlooked, for in 1944 the AAF personnel reporting system was geared to the utilization of this instrument. Statistical Control first began to consider the Troop Basis for purposes of program control toward the end of 1943. While the War Department had always had a deployment document, it was quite inadequate for purposes of program control. For one thing, it had been revised only about twice a year. The modernized War Department Troop Basis allocated manpower among the Ground, Air, and Service Forces, specifying the number of troops to be sent overseas and the number to remain in the Zone of Interior. The AAF Troop Basis was a subsidiary document which further allocated

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personnel among AAF organizations. The Troop Basis was projected nine months ahead, by monthly periods. It was a schedule against which current Zone of Interior and overseas personnel reports could be checked to determine current status; and it made AAF personnel reporting mesh with that of the other components of the Army. After its development by a War Department committee on which the Statistical Control Division was represented in the spring of 1944 a Strength Accounting and Reporting Office (SARO) was set up in the War Department to monitor the collection and processing of Troop Basis data. About 30 per cent of the personnel reports which were put out by the Statistical Control Division in the early part of 1945 were concerned with the Troop Basis.⁸

Reports which deserve particular mention in connection with the Troop Basis and the AAF personnel management system are the PS-166 and its successor, the PR-series. These reports, begun late in 1944, using as a foundation the Troop Basis, strength reports, and estimates of personnel to be acquired from known sources, showed the requirements of the AAF by SSN on a three-month and six-month projection. The fact that the information was shown by SSN enabled the responsible officials to see quickly where certain programs should be curtailed, and others increased or instituted. Thus much of the guesswork was eliminated from planning.

The foregoing generalizations about the evolution of personnel reporting apply only to the standard reports on military personnel. Civilian personnel reporting remained more nearly static. This was partly because the standard civilian personnel report was instituted only when military personnel reporting had already traversed its earlier phases,

partly because civilian personnel reporting was not sensitive to the variety of influences which affected the reporting of military personnel. In the fall of 1942, the Directorate of Personnel had desired the institution of standardized reporting for civilian personnel, both for Headquarters management purposes and to meet inquiries from Congress, the Civil Service Commission, and the War Manpower Commission.⁹ Statistical Control was asked to work out a system which could be maintained by mechanical tabulation.¹⁰ Consequently, in the summer of 1943 Statistical Control instituted another standard report, Form 134, to be prepared monthly by each AAF post, camp, station, and other installations in continental United States employing civilian personnel. Tables I and III, giving classification by specialty and classification by service and grade, were modelled upon Form 127. The classification by specialty, for instance, included columns on number authorized, number employed, and shortages and overages. Like Form 127, Form 134 was a status report, but while it was forwarded through the chain of command, it was not, unlike the report on military personnel, a requisition in any automatic sense, since civilian employees were subject to civil service regulations. Moreover, Form 134 differed from the contemporary 127 in being entirely pre-printed. In addition to the tables already mentioned, there was space for data on selective service classification, leave, overtime, types of separations, etc. Command summaries only were to be teletyped to Washington, although the original reports were to be mailed in later. The directive as revised in the fall of 1944 provided that the precise data to be teletyped to Headquarters AAF should be determined by supplementary directive.¹¹

Aside from the principal standard personnel reports for military personnel in the Zone of Interior, there were several supplementary reports. Form 127 could provide a measure for the flow of personnel through AAF organizations, but it could not tell what was happening to the organizations themselves. Accordingly, each air force and similar command was required, by an informal letter on 13 November 1942, to submit a Daily Activation and Movement Report. This was intended partly to provide a means of policing the 127 report by furnishing a record of all reporting organizations, but it was expanded to serve the general unit-history recording function of the Statistical Control Division. It was an organization change report, showing all AAF units gained by (activated or reassigned), lost to (inactivated, disbanded, reassigned), or changed within (station changes and redesignations) each air force or command. There was no pre-printed form, and the data were simply to be teletyped daily to Headquarters AAF. Several informal directives relating to this report were formalized by AAF Letter (c) 15-6 of 17 February 1944, wherein the report was retitled "Daily Organization Status Change Report."¹²

Another type of supplementary personnel report was that required for AAF personnel and organizations at ports of embarkation (including, from July 1944, ports of aerial embarkation). It was first instituted by informal letter on 22 May 1943 and formalized by AAF Letter 15-3 of 6 July 1944.¹³ Ports of embarkation were required to submit, in addition to Form 127, a Daily Report of AAF Arrivals at and Departures from Ports of Embarkation, and a Port Control Report. The first consisted of data relating to the movements of organizations, their components, or groups of filler personnel ordered to port;

arrivals of the same for shipment overseas; departures for overseas destinations; arrivals of organizations from overseas; and departures of the same for continental destinations. There were no pre-printed forms. The Port Control Report consisted of one section on individuals returning from overseas assignments, according to air force or theater, and a second section which was a roster of patients, also by air force or theater.¹⁴

The reporting of AAF personnel in theaters of operations was systematized and standardized only gradually. The word "standardized" in connection with overseas reporting is used, of course, only in a limited sense, as compared with its use in the Zone of Interior. Headquarters AAF, having to act through War Department authority in the imposition of all regulations upon overseas commands, was not able to enforce reporting procedures within the commands. However, it did encourage the adoption of procedures similar to those required of AAF organizations in the Zone of Interior, and it was able to secure War Department authority for informational requirements imposed at the level of the theater command and identical from theater to theater. In this sense only did the overseas reporting system become standardized.

Overseas personnel reporting under the aegis of Statistical Control dated from 24 April 1942. At that time cabled instructions were issued to each theater, base, and defense command outside the continental United States requiring the monthly preparation of an Organization Strength Report, termed AAF 127, for AAF units. In the following September the requirement was revised by formal AG letter to make available sufficient information for planning purposes and to reduce to a minimum the number of special overseas

personnel reports which were required. There were about 12 job titles listed for officers and the same number for enlisted men; there was also a requirement for strength data on ASWAAF units. A recommended sample form was attached, to be sent in by air mail, but the information might also be transmitted to Washington by cable or by deferred radio message.¹⁵ Beyond this simple strength report, no uniform statistics covering all personnel in all theaters and defense commands were available for more than a year. The inadequacy of this information was realized, but it was planned to wait until the overseas units were firmly established before requiring of them personnel reports similar to those prepared in the Zone of Interior.¹⁶

The next step was taken in November 1943, when a 127-type report was instituted requiring information in much greater variety than previously. It was to indicate 1) the number of authorized and the number of assigned personnel in each AAF unit, by rank and grade; 2) the over-all Air Corps personnel strength assigned by selected specialties; 3) a personnel strength report by Arm or Service, including Air Corps; 4) AAF personnel attached but not assigned to theaters, by unit; 5) AAF personnel assigned to one theater and on detached service in another. The report was to be prepared by the theater command, a separate report being turned in for each air force command in the theater and each AAF unit not assigned to an air force. It will be observed that, except for the requirement as stated in 1) and 4), the requirement was for a summary report, by air force. This was again a monthly report, normally sent in by air mail.¹⁷

A few months later another War Department directive described what a standard monthly overseas personnel summary report should be. While the

procedure by which the information was to be derived from lower echelons was not set forth in more detail than hitherto, the assertion was made that "the methods and techniques developed in the continental system can be utilized in overseas theaters to expedite and simplify the installation of a similarly successful system of standard theater reporting," and literature was enclosed setting forth the details of the continental personnel data system. The data requested included authorized, assigned, and required strength by MOS, both Air Corps and ASWAAF; authorized and assigned strength by grade by arm or service; authorized and assigned strength by organization; authorized and assigned rated pilots by engine qualification. As before, the data were to be air force summaries.¹⁸

The report authorized in September 1944 was a monthly air force summary, transmitted by air mail. The data required were essentially the same as before, with the addition of a strength reconciliation table, and reports on all AAF personnel located at ports of embarkation, debarkation, staging areas, replacement depots, and similar installations, as well as all AAF personnel departing from a theater.¹⁹

It will be observed that a constant tendency in the development of the 127-type overseas report was the reduction in the amount of detail required for the component organizations of the air force, while the scope and variety of information required in the form of air force summaries were extended. Another tendency, as air force personnel moved from the continental United States in ever greater numbers, was to attempt to reproduce overseas the theater personnel reporting system of the Zone of Interior. This was done not only by exhortation but by negotiation. For example, in the

fall of 1943 the Executive of the Statistical Control Division went to the U. K. to initiate personnel reporting by specific serial number in the Eighth Air Force so that the execution of the Bradley Plan for that theater might be expedited.²⁰ On the report of September 1944 tab b and c listings were not pre-printed but typed in, according to standard SSN's. Another development was the use of the 127-type report as a requisition. In this case the requisition could never be automatic, inasmuch as there was no direct line of command from the overseas air force commander to Headquarters AAF, the ultimate source for the flow of personnel to the theaters. However, the report was used as the basis of requisition from overseas and the filling of shortages at Headquarters AAF, which checked the requisition against the reported shortage and the total assigned.²¹

After the establishment of the Troop Basis as the over-all program control device for personnel, Statistical Control was faced with the problem of reconciling AAF overseas strength reports and the air force strength reports made up by the MRU's of The Adjutant General and forwarded to SARO by the theaters. This problem did not exist in the Zone of Interior because of the consolidation of AG and AAF strength reporting in 1943. Overseas, however, AG personnel reporting functions were performed by SCU's only in the Pacific and Far Eastern areas, and reconciliation in other areas remained a problem.* In addition to the overseas monthly summary report, station lists were collected. These came in not by order of a War Department directive but at the request of Headquarters AAF.²²

The obtaining of individual casualty information, recorded by name,

*See above, Ch. IV, pp. 45-46.

rank, and serial number, was a function not of Statistical Control but of the Adjutant General's Office. To assist in fulfilling this function, however, Statistical Control instituted, in May 1943, a Missing Aircrew Report. This included not only standardized information such as organizations to which the personnel involved belonged and serial number of planes, but narrative accounts of eyewitnesses such as could be passed on to the next of kin.²³ Another function of the Statistical Control System was the obtaining of operational casualty information. However, while operational casualty reports were a species of personnel report, they were dominated by the concept of operations, and will be discussed as an outgrowth of combat operations reporting.*

Training Reports

It is very difficult to draw the line between personnel and training data. Individual training reports, which were always handled by the Personnel Statistics Branch in the Statistical Control Division, were at first included, in a rather rudimentary way, in the standard personnel report, Form 127. That is, the first Form 127 contained a column for the indication of the number of students at Air Corps schools by specialty. This column disappeared from the first revision of the form and was expanded into a separate standard report, Form 131, Report of Student and Recruit Status (Air Corps Only).²⁴ Form 131 was prepared weekly by each station, field, school, and training center. It indicated the number of expected graduates, the

*This does not mean that combat crew data were processed by the Combat Operations Branch of the Statistical Control Division. They were processed by the Theaters and Training Branch before its dissolution, and following that were processed by Aircraft and Equipment, which took over every function of Theaters and Training which did not go to the Personnel Statistics Branch.

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number of students under instruction, the number of instructors by course, and the number of admissions, eliminations, and casualties. The form also had a table on unassigned enlisted men by grade. Unlike Forms 127 and 128, it was in no sense a requisition but simply a status report. It was slightly revised in the fall of 1942,²⁵ only to be discontinued at the time of the general revision of the personnel reporting system in July 1943.²⁶

Thereafter individual training reporting ceased to be "standard." Instead, reports were rendered entirely according to the specifications of informal directives issued by the Statistical Control Division, and were frequently revised to meet the changing, informational requirements of Headquarters AAF.²⁷ However, an integrated reporting system for the Training Command was established by a joint conference of representatives of the Training Command, Statistical Control, Military Personnel, Training, and Organizational Planning. Students and trainee reports required of the Training Command by Headquarters AAF, were systematized.²⁸

The reports on unit training were not standard in the same sense as the 127's but they were standard in that all units of the same type reported in the same fashion through command channels where copies were retained at each echelon. A section on combat crews was introduced in the 127 at the time of its first revision, in April 1942. This showed the number of combat crews training as teams, and the number of crew members, by specialties, who had been trained and were in training. Most of this section was eliminated in the revision of September 1942, leaving only a report as to the number of crews authorized and the number on hand, subdivided into

crews trained and crews in training. In the revision of July 1943, this became simply the number of combat crews authorized and number on hand. The section disappeared entirely from the revision of July 1944.

For the rest, unit training data were always reported in accordance with informal directives from the Statistical Control Division. Until the end of 1944 these directives were revised at the rate of no less than two amendments per week, as training objectives shifted. By that date, however, training objectives had become sufficiently stabilized for the directives to be incorporated in a manual entitled "Manual for Training Statistics, AAF Manual (c) 80-5," dated December 1944.²⁹ The manual was distributed to each of the continental commands and air forces having any unit training functions. Although some supplementary training was carried on in the theaters, Statistical Control received no training reports from overseas.

There were eight unit training reports, the data for which were transmitted to the Statistical Control Division by teletype. The first of these to be instituted was the Combat Crew Personnel and Training Status Report, originated on 7 May 1942 as the SC-18 and superseded on 3 December 1943 by the SC-T-55. This was submitted weekly by the four continental air forces, the Training Command, and the Troop Carrier Command, and covered all combat crews, combat crew personnel, and flying instructors. Personnel were reported by crew position, with respect both to duty assignment and MOS.

Next came the "Combat Readiness Report of Selected AAF Units and Arms and Services Units Attached to the AAF." This was introduced on 14 October 1942 as the SC-5A and SC-5B, prepared for all units committed for

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overseas movement and indicating the progress of training during the preceding three months of the training program. As POM inspections showed up training deficiencies, the training directives were refined and the reports expanded to show training accomplishments in comparison with standards. This was superseded in the fall of 1943 by the SC-T-51, which provided considerably more data. It was submitted twice monthly by the four continental air forces, the TCC, the TC, the ATSC, the ATC, and the PGC for a selected list of units prepared from time to time by Headquarters AAF.

A report on heavy bombardment training, known as the SC-14, was instituted on 25 February 1943. It was superseded on 3 October 1943 by the SC-T-60, "Operational Training Report for Heavy Bombardment," revised as of 1 September 1944 to accommodate changes in minimum training standards. This report was submitted weekly by the four continental air forces for each heavy bombardment crew class undergoing unit training.

The SC-T-41, "Report of Available and Assigned Trained Combat Crews," was authorized on 16 July 1943. It was submitted daily by the four continental air forces, the TCC, and the TC for all trained unit and replacement combat crews destined for overseas shipment. On 1 January 1944 a "Training Report for Very Heavy Bombardment," the SC-T-66, was inaugurated. Like the heavy bombardment training report, it was revised to conform with changes in minimum training standards. It was submitted every two weeks by the TC for all emergency rescue unit, casual, and replacement crews in training. The "Training Report for Very Long Range Fighter Groups," SC-T-87, was installed on 6 January 1945. It was submitted twice a month by the four continental air forces for each

group undergoing VLR fighter training. The SC-T-96, "Training Report for Stripped Very Heavy Bombardment," was introduced on 19 January 1945. It was submitted every two weeks by the four continental air forces for every very heavy OTU group or combat crew class undergoing unit training to operate stripped aircraft.³⁰

Housing Reports

The need for data on housing was as imperative at first as the need for personnel data. Indeed, the original Form 127 and its first revision made in April 1942, included space for rough estimates of housing available for personnel sent to fill shortages. There were other housing reports in existence, but they were inadequate. Before the second revision of Form 127 was effected, and under authority of AAF Regulation 15-132 of 15 June 1942, a "Station Housing Report," Form 132, was introduced. It was to be prepared by each AAF post, camp, or station, and included among other kinds, housing provided under contract with civil schools. The frequency of the report, established first at a weekly interval, was reduced on 15 August 1942 to a semi-monthly, and on 7 May 1943 to a monthly interval, although the headquarters of the air forces or similar commands might require a more frequent report if they so desired. Until the revision authorized on 15 June 1944, copies for informational purposes were forwarded through the chain of command by the preparing station as well as direct to the SCU, which would transmit the data to Headquarters AAF. Following the revision of June 1944, the chain-of-command transmission was dispensed with. All copies but one kept by the preparing organization were forwarded to the SCU, which sent one to the commanding general of the air force or command

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and two to the Statistical Control Division at Washington. The only data teletyped in to Washington were such as the Division asked for in supplementary instructions.

The form as first designed indicated actual and potential housing resources, the utilization of existing resources, and population by jurisdiction. The revision of May 1943 introduced data relative to housing authorized, besides conveying more detailed information on the kind of existing and potential housing. The revision of June 1944 reflected the close of the period of construction and the need for more detailed information upon types of housing so that the installations best suited for use as permanent establishments might be determined. The AAF was brought into line with the AGF and ASF by the adoption of normal housing capacity as the standard, a development which likewise reflected a certain stabilization in housing requirements. A detailed showing of existing as compared with authorized housing under construction was eliminated.³¹

Aircraft and Equipment Reports

The obtaining of the basic data regarding the production and procurement of aircraft was always within the province of the Materiel Command or its successor, the Air Technical Service Command. No part of this function was carried on under the supervision of Statistical Control until the creation of the ATSC in the late summer of 1944, when the statistical organization of the Materiel Command was absorbed into the statistical control system. Even then the Statistical Control Division did not exercise such direct and continuous supervision over the procurement of basic production data as it exercised over the procurement of training data.

The case was quite different in regard to location, inventory, and status data. In the spring of 1942 almost all aircraft in the possession of the AAF, tactical as well as trainer types, were in the continental United States. The principal anxiety at Headquarters AAF was the development as rapidly as possible of an adequate continental defense with an inadequate air force. In the circumstances it was necessary for Headquarters AAF to have accurate daily information about the location and the combat status of all tactical aircraft. To supply such information was theoretically a function of the Materiel Command. A peacetime technical order of the Materiel Command had required every organizational reassignment of an airplane to be reported to Wright Field. Even at best, these reports could not provide continuous daily information; but the main difficulty was that, since they were not rendered through command channels, they too frequently were not submitted at all. The result was that only an extremely distorted picture of location was available. The Materiel Command reports were supplemented by daily status reports received from the four air forces and the air Supply Command. The two reports never tallied.³² To get order out of this chaos, the Statistical Control Division devised a standard airplane report which, like the standard personnel report, would reach Headquarters AAF through command channels rather than across them. This was Form 110, "Daily Airplane Status and Flying Time Report," authorized by AAF Regulation 15-110 of 5 September 1942.

Aside from the substitution of command-channel for supply-channel reporting, the principal change which the installation of this form introduced into airplane status and location reporting was the use of physical location and possession

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rather than assignment or accountability as the criterion for determining which organization should report any particular airplane. This new principle, which it was comparatively easy to put into operation, eliminated all mystery about inventory and location of aircraft: aircraft were simply at the location of the reporting organization, and no aircraft was omitted or reported more than once. One table on Form 110 was a report by type, model, and series of plane. It showed the total number of each type-model-series at a location, the number flyable, the number grounded and the reason therefore, time required for grounded planes to be made flyable, and flying time. A second table constituted a report of individual planes by serial number. It showed aircraft gained or lost by the reporting organization since the previous report. An amendment of December 1942 added a daily engine change report, by serial number of engines.³³ The flying time information was important in determining whether aircraft were being used effectively and as a basis for accident and accident prevention studies by the Office of Flying Safety. Probably a more important use was as a means of determining future production and allocation of aircraft, fuel consumption, and maintenance requirements.³⁴

In essentials, the data shown on the report did not change after the first Form 110, but some refinements, additions, and modifications were introduced. Early in 1943, the hour for reporting was changed from noon to midnight, to permit changes of status which took place during the day to be reported as having occurred.³⁵ In the revision of July 1943, the criterion as to when aircraft should begin to be reported on Form 110 was changed from factory acceptance to actual delivery. At the same time, the report was ex-

tended to cover all AAF aircraft, not merely tactical airplanes, and three tables were added to provide greater detail on aircraft grounded awaiting parts or for other reasons.³⁶ One result achieved by the institution of Form 110 was the material reduction of the number of aircraft reported grounded awaiting parts.³⁷ The same revision also included the addition of a weather-factor column, showing the total number of airplanes on hand multiplied by the number of hours of the previous 24 in which weather had permitted flight operations.³⁸

Another standard aircraft and engine report, Form 111, had been established in November 1942.³⁹ This monthly report gave the same data on individual planes as were given daily in Form 110 about type, model, and series of aircraft. Form 111 also contained a monthly engine report, indicating what engines by type, model, series, and serial number were installed in what trainer and tactical airplanes by type, model, series, and serial number. In August 1944 Forms 110 and 111 were consolidated: 110 became 110A and 111 became 110B, known as the "Monthly Aircraft Status, Flying Time, and Serial Number Inventory Report." Since 110B was exactly the same as 110A except for one table, the serial number inventory, 110A was not rendered at all on the date of the rendering of 110B.⁴⁰

Unlike the other standard reports, Form 110 was only a standard guide for preparing the report, which was to be transmitted by telephone, teletype, or radio to the appropriate SCU for further transmission by teletype to Headquarters AAF. For informational purposes a copy of the report was sent up through the chain of command; the Regulation of 10 July 1943 specified that it was to be turned over to the SCU servicing the command or air force in question

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for the preparation of statistical analyses for those headquarters. According to the same directive, no copy of the report was to be forwarded to Headquarters AAF after the transmission of the data by teletype. According to the revision of August 1944, the report was to be transmitted to the Statistical Control Division only when that office directed it, but no changes were made immediately in the quantity or frequency of information required at Headquarters AAF.⁴¹ Besides Headquarters AAF and the headquarters of the command or air force to which the reporting organization belonged, there was a third recipient of the data on Form 110--the Statistical Control Office of the ATSC.⁴² Originally, the copy was furnished ATSC so that controls could be established over aircraft servicing; later it provided a control over aircraft grounded for lack of parts.⁴³

The organizations originally submitting Form 110 were squadrons, separate detachments, depots, sub-depots, and modification centers,⁴⁴ ports of embarkation, factories having delivered aircraft on hand, or other organizations not part of the AAF but customarily or actually having AAF aircraft on hand were to report through the AAF representative or personnel assigned.⁴⁵ In 1943, the Training Command was permitted to submit consolidated station reports.⁴⁶ By the regulation as revised on 1 August 1944, the group normally superseded the squadron as a reporting unit, and the base statistical officer appeared as an intermediary in the transmission of reports from the preparing units to the SCO, in order to check on the accuracy of the reports. Prior to its incorporation in Form 110, Form 111 was transmitted by the same organizations as Form 110, but it was sent by air mail to the SCU, not by teletype.⁴⁷ Like the other basic-

data reports, Form 110 responded to the switch in emphasis at Headquarters AAF from operating to planning. This meant that the data transmitted became less detailed and were returned at less frequent intervals; status became less important than inventory. However, the data were consolidated into air force summaries.

The remaining standard continental aircraft report need only be mentioned. This is Form 18, "Daily Control Tower Operations Log," and Form 18A, "Monthly Runway Traffic Report of Airplane Landings and Take-offs." It was designed to provide a standard method of securing statistics on landings and take-offs and to furnish data on various considerations in the construction and operation of airport facilities.⁴⁸

The first regular overseas aircraft report set up by Statistical Control was a weekly cable instituted informally by Headquarters AAF for the U. K. in June 1942, just prior to the movement there of the first groups from the United States. In the course of the next 10 months this report was extended to other overseas theaters. At this time the aircraft cable was concerned more with inventories and inventory changes than with status.⁴⁹ Meantime, in the fall of 1942 and spring of 1943, Form 34, the weekly air mail "Status and Operations Report," indicated the following data for organizations performing tactical missions: the number of airplanes by type, model, and series on hand, ready for combat, repairable in two weeks, lost (by cause), and arrived since last report. Form 34 was a "standard" report, prepared normally by squadrons and forwarded through the chain of command to theater headquarters, to be transmitted thence by air mail to Headquarters AAF.⁵⁰ With the standardization and

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formalization of the aircraft cable, however, it was expected that this portion of Form 34 would eventually be eliminated.⁵¹

On 18 October 1943, the aircraft cable directive was revised to secure more status information, as well as information on functional distribution and geographical location. An AG letter of 1 August 1944 formalized all preceding directives on this report and made a few minor changes. The report aimed to present a complete overseas status and inventory picture. All aircraft were included, by type and model. Tactical aircraft were reported as follows: operational with tactical organizations; operational in reserve; undergoing first and second echelon maintenance and repair; undergoing third and fourth echelon maintenance and repair; in use for non-tactical activity; in crates; under erection; being modified; new arrivals; and other gains and losses from tactical inventory. The report was rendered every 10 days; in addition, a report was submitted on the day when aircraft departed for the United States or another theater. Unlike the aircraft status report on Form 34, it was an air force summary.⁵²

The daily operational cables from the theaters were used to modify the 10-day status cable as they came in, the resulting picture being reconciled every 10 days with the status cable. Other supplementary sources were the A-2 tactical narratives, the ATC reports on the movement of aircraft, and the Navy files on ship movements.⁵³

Very soon after V-J Day aircraft status reporting by the overseas air forces was simplified. The frequency of transmission was changed from every 10 days to semi-monthly. The total first-line aircraft on hand (divided into operational, storage, surplus, and miscellaneous), gains, losses, and total second-line

aircraft were to be shown. All data on the status of aircraft undergoing maintenance were eliminated.⁵⁴

Equipment reporting had a checkered history. Only by degrees did it come under the technical supervision exercised by the statistical control system. The first "standard" equipment report was Form 107, "On Hand Equipment Report," authorized by AAF Regulation 15-107 of 8 June 1942. Prepared semi-monthly it was a typical standard report in that it was normally prepared by squadrons, copies were forwarded through the chain of command, and the data were transmitted to Headquarters AAF by the SCU's over the teletype network. It was essentially another report on the combat readiness of units. The report, including both AAF and ASF (then SOS) items of equipment, consisted of statements about the following: authorized equipment by classifications (several AAF classifications in addition to Quartermaster, Ordnance, etc.); percentage of authorized equipment on hand; and whether the reporting organization could function properly under field conditions with the equipment on hand and whether the lack of equipment was seriously impeding training. The report was not statistical in any exact sense, as it was based on subjective judgments regarding the relative necessity of different items. A few months after being revised on 12 December 1942 to include reports by ASWAAF units, Form 107 was generally discontinued. It was formally abolished in May 1943.⁵⁵ Data on the equipment of organizations undergoing training were to be included henceforth in training reports. In the First and Fourth Air Forces, which were being kept in readiness for combat in case the shores of the United States were attacked, Form 107 was retained to serve as a report for continental defense purposes.⁵⁶

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The next standard equipment report to be set up was Form 108, "Report of Controlled Items of Equipment on Hand," authorized by Regulation 15-108 of 9 July 1942. The only unusual thing about its routing and distribution was that instead of being teletyped by the SCU to the Statistical Control Division at Headquarters AAF, copies of the reports were mailed direct to Washington from the stations.⁵⁷

Until the spring of 1945, Form 108 relating to ASF equipment only, contained no information about AAF items. It consisted of listings of critical and controlled items of ASF equipment, by Arm or Service. This form dated back to May 1942, when equipment had been critically short, and the Services of Supply complained that the AAF, which had first priority upon SOS equipment, was piling up surpluses. No effective answer could be made, since the records kept at the bases were non-uniform and their consolidation at higher echelons was therefore difficult. Accordingly, the Director of Base Services requested that Statistical Control institute a standard SOS equipment inventory report in the continental commands and air forces. The first problem was to get an agreement upon a list of workable length. The SOS wanted several hundred items listed, but the number finally agreed upon was approximately 150. The first Form 108 merely gave the number of items on hand, upon the basis of physical possession by the reporting organization. In December 1942 an "authorized" column was inserted so that the exact location of shortages could be determined. At the same time, a reform was made with regard to reporting responsibility. Hitherto the unit commander had been responsible for sending in the report, with the result that only 60 to 70 per cent of the organizations reported. Now the base com-

mander was made responsible for collecting and mailing the reports, and coverage immediately rose to 90 per cent. It later rose to about 95 per cent.

In September 1943 there was a shift in the basis of reporting from physical possession to property accountability. Items held on property account are defined as those for which accountability has been assigned to the receiving organization, as evidenced by the use of a shipping ticket. Such items are distinguished from those loaned out on memorandum receipt. About the middle of 1943 equipment assigned to units undergoing training in the Training Command was for the most part transferred back to the bases and then loaned out to the units. Unit equipment destined for overseas use was routed to staging areas, to ports, or later, to its overseas destination, for assignment. Obviously, most of the training equipment had to be reported not by the units but by the bases, which could indicate both the number of items currently on hand and the number loaned out on memorandum receipt. Base consolidation afterward occurred in other continental commands. The consequence was an improvement in the accuracy and coverage of the reports and a reduction in the number of 108 reports. Thus the first step in consolidated reporting in the case of the 108 report was achieved not, as in the case of the 127 report, by consolidation of the data by the SCU at command level, but by a reform in the method of reporting at base level.

The 108 report was the principal means by which the AAF submitted requisitions to the Operational Plans Division of the War Department General Staff, the organization which determined the flow of controlled and other critical items of ASF equipment to the AAF. Within the AAF, the report served Headquarters for

over-all planning and procurement purposes; it also served the headquarters of the several commands and air forces as the basis of requisition from the commands to the ATSC, the organization to which the Commanding General of the AAF delegated his authority for the transfer of ASF equipment between stations.⁵⁸

In the latter months of 1944, Form 108 was extensively revised to provide periodic information not only on ASF equipment but on critical selected AAF items as well.⁵⁹ The institution of this revision was, however, delayed many months because of the possibility that all AAF equipment reporting might continue to be handled by the Statistical Control Office of the ATSC.⁶⁰ The 15th SCU, which had taken over AAF supply and equipment reporting at Headquarters ASC, developed a stock balance and parts consumption reporting system in which the Statistical Control Division at Headquarters AAF played no role, except that of promoter and advisor. This reporting system was criticized by MM&D because it included items in depots only, not items in use.

On 7 April 1945 a revised AAF Regulation 15-108 was published. Under the terms of this, Form 108X was to be used for AAF equipment, Form 108Y for ASF equipment. Form 108X went beyond the ATSC reports in that it showed quantities of equipment in use as well as in depots. Highly critical AAF items were reported monthly, a comprehensive list of items was reported quarterly. ASF items, which were controlled and critical items only, were to be reported monthly, as before. The report was a base report covering all activities for which the base had supply responsibility. But the consolidated base report, instead of being sent to Washington by the base commander as previously, was now to be forwarded to the SCO at the head-

quarters of the command having primary jurisdiction over the base. The SCO would then produce a machine tabulation for all bases within the command. The data were to be forwarded to the Statistical Control Division at Headquarters AAF in the form of command summaries and in accordance with supplementary instructions issued by the Division.⁶¹ Thus the Division was to receive summary information regarding AAF items of equipment, to be used by Headquarters AAF for over-all planning purposes, while detailed information on location was to be kept at command level for the purposes of distribution of equipment by the commands and the ATSC.

Just after the last revision of Form 108, a new standard equipment report, Form 113, was introduced, covering vehicles and powered ground equipment held by the AAF in the Zone of Interior.⁶² Both ASF and AAF vehicles were included. The purpose of the report, which was rendered monthly, was to provide inventory, status, and maintenance data. Form 113 did not duplicate any information rendered on Form 108 but was supplementary to it.

There was one other standard continental equipment report, Form 10, "Report of Air Forces Photographic Operations and Equipment on hand." In a pre-standard form, this report was older than the 108, which it supplemented. It had existed under the denomination of Form 10 since 1928.⁶³ Before it was given to Statistical Control, the copy of the report which had been sent into Headquarters AAF had been submitted to the Director of Photography. Statistical Control took it over in the summer of 1943 and revised it, the new report being authorized by AAF Regulation 15-10 of 15 October 1943. Prior to its assumption by Statistical Control, the report carried information on both photo-

graphic personnel and photographic equipment; afterward, it became only an equipment report. It had been and continued to be prepared by AAF units having on hand Air Corps aerial or ground cameras or unexposed aerial or ground film. The report was transmitted along with Form 108.⁶⁴

Systematic overseas supply and equipment reporting was initiated about the beginning of the year 1944 by Statistical Control. One of the earliest of these reports was a photographic equipment report comparable to Form 10, installed in the theaters at the request of Headquarters AAF. The figures on this began to come in about January 1944.⁶⁵ However, the first general and recurring equipment report from overseas was Form E-9, "Monthly Air Forces Service Command Overseas Supply and Maintenance Report."⁶⁶ Installed by Statistical Control, February 1944, at the instigation of the Air Service Command, it was very largely devised by that command,⁶⁷ which had just been engaged in revising its own supply reporting procedure in the Zone of Interior, under the supervision of Statistical Control. The E-9 was essentially an Air Service Command summary. It was to be prepared by the headquarters of each overseas air force or theater service command and forwarded monthly by air mail, one copy to the Statistical Control Division and another to Headquarters ASC. Two copies were to be sent, respectively, to the commander and the air force commander of the theater.

There were four tables in the E-9 relating to maintenance: aircraft, engines, instruments and accessories, and items repaired by the Air Service Command for other commands and by others for the Air Service Command. Part A, on aircraft listed by type, model, and series, related to maintenance only, not to inventories, inventories were taken care of by

the overseas status cable. (Form 34 also had some information on aircraft maintenance, but that in the E-9 report was much more detailed.) Part B, on engines by type, model, and series, provided the first regular overseas engine report of any kind, and related not only to status and maintenance but to inventories. Part C on accessories and instruments related to maintenance only. There were other tables which had nothing to do with maintenance. Part E, on supply, was a table indicating critical shortages and surpluses of AAF items. It was not an inventory of all AAF equipment in the theater; it simply gave the on-hand, required, and shortage data for items in which the deficiency was critical, as well as surplus data for items in which a surplus existed. There was then no overseas inventory report to Headquarters AAF or to the ASC which was more complete. Table F of Form E-9 was an inventory of theater air service command personnel, by function, both military and civilian. Part G was an inventory of special signal equipment. A final table, Part H, was provided for special voluntary information relating to theater planning and requirements.⁶⁸

This omnibus report was not used very long. The necessity for Part E on supply was eliminated by the installation of the ASC stock balance accounting system reports throughout the theaters of operations in the course of the year 1944; these were more nearly complete inventories than was the 3-9 report. They were rendered directly to the ATSC, the Statistical Control Division having nothing whatever to do with them. In November 1944 the maintenance section at Wright Field indicated that it had no further need for Section A on aircraft maintenance, and Headquarters AAF had none, either. The whole E-9 report was formally discon-

tinued as of 31 December 1944, except for portions of Parts B and D on the maintenance of aircraft engines and Part G on signal equipment.⁶⁹

Meantime, two new overseas aircraft engine reports had been instituted, in addition to the section on aircraft engines in the "E-9." Both were monthly theater command summaries, to be transmitted to Statistical Control at Headquarters AAF, and to Headquarters ATSC. One of these was a cable, "Monthly Engine Inventory and Status Report." It indicated, by type and model of aircraft--number of engines, the number of installed, serviceable spare, and repairable spare engines, and the number of engines received for overhaul at theater repair facilities during the month. This report was first authorized by a cable of 26 July 1944 and slightly modified by AG letter of 6 November 1944.⁷⁰

The second aircraft engine report was an air mail letter, "Monthly Engine Report of Inventory Control." It was instituted by the AG letter of 6 November 1944. Part A gave a report of engine inventory and status, showing total on hand at the end of the previous month, monthly gains by reason, monthly losses by reason, total on hand at end of month, status of engines on hand at end of month. Part B gave a breakdown of theater receipts and shipments of spare engines. As an inventory, the monthly engine cable had the advantage over the E-9 report in that it was rendered on a theater rather than an ASC basis; it was more likely to represent complete coverage in the theater. Part C was added in February 1945 to provide data on engine maintenance. The directive which established it did away with the engine maintenance portion of the E-9 which had survived the elimination of most of that report in the preceding December.⁷¹ The last surviving portion of the E-9, the section on

special signal equipment, was superseded on 30 April 1945 by a "Monthly AAF Ground Radar Equipment Report and Monthly Inventory Status Report of AAF Communications Items."⁷²

An aviation petroleum products report for overseas theaters, in the process of development simultaneously with the E-9⁷³ was installed in January 1944. It consisted of two parts. One was a monthly cable or radio report covering the theater and showing stocks on hand, receipts, consumption, losses, and reshipments. It was transmitted to the Statistical Control Division at Headquarters AAF, while an information copy went to the ATSC.⁷⁴ The other part was a monthly air mail report to the Statistical Control Division, giving estimated theater consumption of aviation fuels, exclusive of fuel required for building up stocks.⁷⁵ Both of these reports, like most other overseas reports instituted by Statistical Control, were summaries, but computed on the basis of theater rather than air force. Unlike other overseas summaries, they pertained not alone to the AAF but also to the needs of the air forces of allied nations operating under the theater command.

Combat Operations Report

The most important single source of combat data was a standard report, Form 34, "Status and Operations Report." Prior to its institution, operational information was derived chiefly from daily operational cables, intelligence reports, and Navy reports on combined Navy and AAF operations in the South Pacific.⁷⁶ But these data were unreliable and spotty. There was some experimentation with a combat operations form in the Directorate of Statistical Control during the spring of 1942; but it was not until the Battle of Midway (June 1942) that sufficiently

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detailed combat data were available to test the form's utility. The data, which had been sent to Washington by letter, were transferred to the proposed Form 34 and presented in such a way that General Arnold was favorably impressed by it as a new device for gathering basic combat information. After his approval had been secured, Form 34 was coordinated with other Headquarters offices.⁷⁷ It was issued to the theaters with instructions embodied in AAF Regulation 15-34 of 15 September 1942, and with a covering AG letter published on 3 October 1942.⁷⁸

The heart of Form 34 was Table III, Operations, which reported operations by mission, giving type of operation; operational factors such as weather, time of attack, etc.; attacking power (airplanes, bombs, rounds of ammunition); type of enemy resistance; results of mission in terms of enemy losses by plane and United States losses by planes and crews. The scope of the report was expanded to carry more detailed information as the result of a number of supplementary directives, which were finally summarized by an AG letter of 24 October 1944.⁷⁹ For example, the need for information on gasoline consumption in the theaters led to the insertion of a provision for such data. To standardize the reporting of bomb expenditures, detailed instructions were appended to the directive. Also included was a separate table of remarks and recommendations (not statistical), to be filled out at the option of the theater, which came to include sections on supply and maintenance, training and personnel, aircraft and equipment, field conditions, weather and communications, and combat technique. This was originally included at the initiative of Statistical Control, so that complaints from the lowest echelons in the

theater would be sure to reach Headquarters AAF.

Unlike other overseas reports, Form 34 had the principal characteristics of the "standard" continental forms. In most theaters it was prepared by squadrons or separate detachments as long as they performed tactical missions. The squadron, group, air force, and theater command each retained a copy, while the original was air mailed by the theater commander or commander with comparable jurisdiction to the Statistical Control Division.

Before V-E Day there were two theaters in which Form 34 assumed a different character. In ETO, the Eighth Air Force already had a highly organized system for reporting mission statistics and they considered Form 34 as superfluous paper work. From narrative tactical mission reports which came up through operations and intelligence channels, this air force extracted the basic data and put it into ledgers. Statistical Control, on the other hand, distrusted the figures obtained from the narrative mission reports because of incomplete data and the difficulty of checking discrepancies. A compromise was finally achieved when the Eighth and Ninth Air Forces discontinued squadron Form 34's and substituted a mission report prepared by the division and consolidated by the air force headquarters into a Form 34 "Summary of the Mission." This mission report, inaugurated on 1 April 1944, was transmitted to Washington after each mission rather than at stipulated periods.

Form 34 was introduced into MTO about July 1943. Since the Allied commands there were integrated, the form had to be coordinated with the British operational reporting system. The Allied command had been using intelligence flash reports, which were never corrected but which came

through much more frequently than the weekly Form 34. The theater therefore secured permission to have the information contained in Form 34 transmitted to the Headquarters of the Twelfth and Fifteenth Air Forces on a daily or mission basis, and to transmit to Headquarters AAF every 15 days an air force summary known as SCOR Form 34. This report was instituted as of 1 November 1943.

Although the basic data of combat statistics were standard throughout all theaters, certain terms describing the data varied between Headquarters AAF and the theater to produce a certain amount of confusion. In ETO and MTO, for example, where the high rate of loss led to the concept of a tour of duty, "sortie" came to be applied to crew activity; Headquarters AAF used the term in its original sense: an aircraft sent on a mission against the enemy. In July 1944 a War Department directive⁸⁰ required the theaters to use the term in the latter sense, and to use either "crew credit" or "credit sortie" to denote a mission flown by a crew. But even this did not insure conformity.⁸¹

Perhaps one of the most important uses to which the Form 34 was put was in converting data from all theaters into punch card form. Several attempts had been made by the combat operations and machine records branches to reduce operational data to punch cards, but the lack of forms common to all theaters, as well as different interpretations of procedure, required the development of a basic functional document before such a move could succeed. When the Strategic Bombing Survey was formed and began searching for available data to measure the impact of air effort against specific targets, the Form 34 seemed to provide the answer. A program was immediately developed between the Statistical Control Division and the Prudential Life Insurance Company (whose president

was also chairman of the bombing survey) to transcribe the varying forms for reduction to punch cards. The project took eight months, culminating in summer 1945.

Form 34, however, was not the only source of combat operations data. Among the others were: daily operations cables from each theater; theater summary reports of various types of operations, usually monthly; bomber command reports on single missions; informational intelligence summaries; and such other statistical control reports as overseas combat crew reports and overseas 110-type reports.

Combat analysis passed through two distinct periods. In the earlier phase, emphasis was on the fundamentals of air force operations, such as the calculation of aircraft and crew attrition rates, the maximum sortie effort of heavy bombers in a given theater, or gasoline and ordnance consumption rates. Later, increasing emphasis was given to crew policies, such as length of tour, chance of tour completion, and effect of experience on loss rates.⁸²

Combat crew reporting in overseas theaters was a phase of operations reporting. The oldest of these reports was Table II of Form 34: the status of personnel by duty assignment, in organizations having aircraft for use in tactical missions. From their inception in October 1942, the reports remained roughly the same, including such general headings as personnel present for duty, deaths by cause, personnel missing since last report, personnel sent to hospital, and personnel added or separated (other than killed or missing) since last report. Since use of this report was extended only gradually throughout theaters of operations, it was some time before personnel losses and attrition rates could be determined accurately for most theaters.⁸³ As the separate

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combat crew and combat crew personnel reports became standardized throughout all theaters, this section of Form 34, like the aircraft status section, was expected to be eliminated.⁸⁴

The first of the separate combat crew reports was instituted by informal directive on 27 February 1943. It was designed to show, at monthly intervals, the number of crews on hand by type and model of airplane; the number with squadrons and available for duty; and personnel inventories and changes by specialty. After 2 August 1943 weekly arrivals and losses were also shown. Numerous other emendations followed, the whole being consolidated by AG letter as of 31 August 1944.

There were actually four reports, all air force summaries. The "Combat Crew Status Report," sent to Headquarters AAF by radiogram three times monthly, related to entire crews, not to their components by specialty, and indicated by type and model of plane flown, gains and losses by reason, retirement, changes in status, inventory as of current report, and number of crews attached to combat units and available for duty. The "Combat Crew Personnel Report," sent monthly to Headquarters AAF by air mail, presented, by specialty of crew members as well as by type and model of plane, much the same information as was contained in the "Combat Crew Report." The "Report of Average Distribution of Combat Crew Inventory," also sent monthly by air mail to Headquarters AAF, gave for crews indicated by type and model of plane, the average number classified as having been operational or non-operational with combat units, and the average number of all other crews. There was, finally, a "Flash Report of Inter-theater Transfers of Combat Crews." This was a radio report sent to Washington on the day of departure of the crews.⁸⁵

Naval and Foreign Statistics

For over two years prior to V-E Day Statistical Control had access to whatever statistics had been gathered by the Navy air arm relative to its operations. These were handled by the same branch at Headquarters AAF which handled the procurement of Allied and enemy statistics, inasmuch as the procurement of both was a matter of Headquarters liaison. From the representatives of Allied nations Statistical Control received about 100 source-data reports, submitted according to a regular schedule. The sanction for this procedure was the principle of reciprocal aid. The procurement began in April 1942 with the exchange between the AAF and the RAF of the order of battle. Starting with aircraft only, the data exchanged came to include personnel as well.⁸⁶

Reports Control

The development of the statistical control reporting system was carried forward with two purposes in view. The chief purpose was to provide accurate information about the major activities of the air forces for use at both planning and operating levels. The second purpose was to provide a few simple and well-integrated reports as a substitute for the voluminous bulk and complicated maze of reports upon which air force logistics at the beginning of the war had to depend, reports which were the despair of the field organizations where they were prepared. The ideal of the statistical control reporting system was originally a rather rigid standardization. Formal directives were designed to provide for the transmission of identical information through all echelons of command from the squadron to the Air Staff, and for obtaining information in identical terms from the several air forces and commands. It soon

became evident, however, that the standard report form was not applicable under all conditions. Training data, for example, were too specialized and complicated and the requirements changed too rapidly to fit into the pattern. Thus non-standard basic-data reports had to be used to a very considerable extent. Later it was discovered that the same kind and detail of information was not always desired at every level of command. Reporting under the "standard" forms was therefore decentralized. But this did not mean a return to the chaotic reporting system of the past. The installation of the non-standard reports of the statistical control system represented a considerable tidying-up of the internal reporting procedures of the commands that produced them, while the decentralization of the standard reports only meant a greater flexibility in their use. Actually, the situation at the end of the war, when there was no great difference in the degree of standardization of the "standard" and "non-standard" reports, reflected a mature reporting system, in which the controls were so firmly established that the lines could be easily manipulated and a variety of results produced. Thus the idealizing behind the statistical control reporting system was the concept of reports control, which meant the constant survey of data requirements and the continual modification of existing reports to keep them in line with requirements.

The concept of reports control evolved from the narrower idea of reducing the number of reports to a minimum. The old reports for which the new statistical control reports were intended to provide a substitute did not disappear of themselves; they had to be eliminated by a positive act. Surveys had to be conducted to determine which reports could be eliminated altogether, and

which could be combined or rewritten. This process began a couple of months after the establishment of the Directorate of Statistical Control, and it continued to the end of the war. The lower echelons in the field, which had to prepare the reports, constantly complained of the burden of paper work. Every so often tremendous pressure would be exerted at Washington to cut it down. The first great drive for the elimination of reports was conducted during the latter half of 1942 at the instance of The Inspector General of the Army and the Deputy Chief of Staff.⁸⁷ No sooner had this effort been spent than the Commanding General of the AAF ordered that immediate action be taken to reduce by one-third the number of reports required of field activities, regardless of the origin of the reports. The order occasioned some dismay at Headquarters, but steps were taken to carry it out as well as might be.⁸⁸

Statistical Control was the office upon which fell the burden of effecting this reduction of paper work. At the outset Statistical Control did not possess a great deal of authority in this matter. As a matter of fact, it had no authority at all to eliminate reports: it could simply sponsor surveys and demonstrate to the organization originating the request for a particular report that the report was no longer necessary. This was effective enough at the beginning, when a great number of reports that had been instituted before the reorganization of 9 March 1942 were done away with. But to get to the rest of the problem some kind of control had to be established over the institution of new reports. This was not easy to accomplish because of the diverse origin of the reports. There were three principal classes: reports instituted by offices at Headquarters AAF; reports instituted by the air forces and similar

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commands or by lower echelons under their jurisdiction; and reports instituted by agencies of the War Department outside the AAF. Of the latter, the ASF was the greatest offender from the point of view of number of reports required.

A formal directive of April 1942 conferred upon Statistical Control at Headquarters AAF the responsibility for clearing all requests or directives calling for statistical reports from units under the command jurisdiction of the Commanding General of the AAF. However, the various divisions, directors, offices, and commands of AAF were authorized to request reports from activities under their direct control.⁸⁹ In other words, this power of clearance applied only as between offices and commands of different jurisdiction. Moreover, the function of clearance implied only a limited power to obstruct; it was chiefly in the nature of checking and coordination. In June 1943 the Statistical Control Division was also given the power to clear all reports prepared within the AAF for the Commanding General of the AAF, the Chief of Air Staff, or for higher or parallel authority.⁹⁰ In December 1943, in consequence of the continuing interest of the Commanding General of the AAF, the Chief of Air Staff, and the Air Inspector in the volume of reports required by Headquarters AAF from the field,⁹¹ it was provided that no such report should be rendered unless it had previously been assigned a clearance number by the Statistical Control Division. This ruling applied to report forms as well as to the data.⁹² Thus the Statistical Control Division at last received the power to prevent the institution of new reports of one large class--those required by offices in Headquarters AAF from field commands.

About the same time, attack was made upon the problem of reports required by commands from organizations at lower echelons within their jurisdiction. A statistical control survey conducted at the close of 1943 indicated that the Materiel Command's own reports control system was reasonably effective, albeit the agency exercising the reports control function might very well be given a greater degree of authority.⁹³ Statistical Control had sponsored the adoption of a system of reports survey and control in the Second Air Force, through the agency of the statistical officers of that command, and was prepared to recommend its adoption to other commands and air forces.⁹⁴ But a more general and authoritative course of action was taken. In January 1944 Headquarters AAF directed the continental commands and air forces to establish more effective reports control within their several jurisdictions and recommended the adoption of the same plan as that in use for the control of reports required by Headquarters agencies from the field. As stated in the directive, the essentials of this plan were:

- a) Authorization of a unit to review and clear all statistical reports.
- b) Classification by this unit of all statistical reports by subject according to a standard classification system based on an inventory of all current reports.
- c) Assignment of clearance numbers to all current statistical reports according to a numbering system which identified both the report and the requesting office.
- d) Periodic publication and distribution of a roster of reports.
- e) Review and clearance of requests for new reports.
- f) Establishment of a policy that no directive requesting prepa-

ration of a new report need be complied with unless the report had been assigned a clearance number.

It was suggested that the SCU's be designated as the units exercising the reports control function within the commands and air forces.⁹⁵ Such a responsibility was actually conferred upon the statistical control offices by a Headquarters directive of March 1944.⁹⁶

In July 1944 an integrated reports control system embodying the principles enumerated above was established under the technical supervision of the Statistical Control Division throughout all echelons of the AAF in the Zone of Interior. When this directive was revised six months later, an additional provision was inserted to the effect that all reports requested by offices at Headquarters AAF from overseas air forces also receive clearance numbers from the Statistical Control Division. Requests for overseas reports initiated by the ATSC pertaining to technical supply and maintenance (a reference to the overseas stock inventory and parts consumption reporting system) would be cleared by the Statistical Control Office at Headquarters ATSC.⁹⁷ Meantime, under guidance and encouragement from the Statistical Control Division (which had however no actual authority in the matter), the overseas SCU's had made progress in the establishment of reports control within the theaters of operations.* The promulgation of directives setting up an integrated reports control system in the Zone of Interior did not guarantee that the system would be entirely effective. It was not. AAF Letter 121-51 of 7 April 1945 ordered stricter compliance with AAF Regulation 80-2 in the field, and stated

*See above, Ch. IV, p. 46 ff.

that reports control would be a special project of the office of the Air Inspector until 1 July 1945.⁹⁸

None of the foregoing developments touched the problem of reports prepared for the ASF. The latter established a clearance-number system of their own for ASF reports.⁹⁹ In August 1943 it instituted a kind of self-censorship of all recurring reports initiated by ASF components and directed to any War Department agency outside the ASF; such reports would have to be cleared by the Control Division, ASF.¹⁰⁰ This was not, apparently, a sufficient deterrent. In March 1944 an informal agreement was reached between Statistical Control and the Control Division of ASF, whereby the ASF agreed to clear with Statistical Control at Headquarters AAF all requests for reports initiated within the ASF.¹⁰¹ This was formalized in ASF Circular No. 1, 2 January 1945.¹⁰²

Though report control in some instances might have been more effective, the reduction in number of reports and the consequent savings in man-hours were substantial. Between December 1944 and March 1945, 70 of the 217 recurring reports received by Headquarters AAF from overseas were eliminated. In the next quarter 63 others were eliminated, and by November another 46 were discontinued. Ten had been added so that the total was reduced to 48. Almost at the end of hostilities all reports prepared by Statistical Control were under survey, and it was estimated that 85 of these could be discontinued. It has been estimated that from the inception of Statistical Control to late 1945, the Division discontinued through obsolescence, consolidation and other means--a total of more than 5,000 reports, and prevented other "thousands" from coming into being.¹⁰³

SUMMARY AND CONCLUSIONS

STATISTICAL CONTROL, as a fully developed concept, means the centralization of administrative controls over statistical reporting, the employment of standardized reporting procedures, and the use of the data thus derived as an essential factor in planning and as the quantitative measure of achievement.

There was little realization in the Air Corps of a necessity for any kind of statistical control prior to the expansion program which was inaugurated in 1939. Each of the several divisions of the Air Corps had its own statistical agency serving its own peculiar needs. The least specialized was the Development Section of the Inspection Division. Though engaged chiefly in the compilation of accident statistics, this Section performed certain services for other Headquarters offices and had still broader pretensions as a Headquarters service agency, pretensions which received recognition when it was transferred to the Administrative Division late in 1940 under the name of Research and Statistics Section.

The first ideas of the measurement of the flow of personnel and materiel in the expansion program of 1939 were associated with the Research and Statistics Section. Actually, however, it was the Plans Division, Statistics Section, established about the beginning of 1941 to facilitate program planning in the Air Corps, which eventually succeeded in establishing statistical control in the AAF. This Section was split in the reorganization of June

1941; part went to the Air Staff and part remained in the OCAC. A cooperative working arrangement was devised between the two sections, which moreover absorbed the functions and most of the personnel of the Research and Statistics Section. With the Headquarters reorganization of March 1942 they were again united, at staff level, as the Directorate of Statistical Control.

The Directorate--or as it later became known, the Statistical Control Division of the Office of Management Control--was intended to function as a service agency not merely for Plans, but for all divisions of the Air Staff. It did not entirely supplant all other statistical organizations at Headquarters AAF, but was able to establish a certain hegemony. This was based partly upon its original mandate, which gave it responsibility for compiling air force statistics on any subject, partly on an extensive reports control function which it acquired, and partly on the important role which it played in 1943 and 1944 in the development of program control in the AAF. The circumstance that it was on the same echelon as other staff divisions (or even, when it moved with Management Control into the Office of the Chief of Air Staff, a higher echelon), and possessed powerful backing in the support of the Assistant Secretary of War for Air, the Statistical Control Division was able to achieve its position and forward its policies with a certain freedom of action and a degree of immunity from the effects of hostile criticism.

The field organization of which the Statistical Control Division was the head went through an evolution of its own, in some respects parallel that of the Headquarters organization. The first need for expansion of statistical reporting was in the procurement of personnel data. It was originally intended to rely for these upon the Machine Records Units established by The Adjutant General toward the end of 1940--about the time that the Statistics Section of the Plans Division, OCAC, was being established--in the several Corps Area commands and later in certain of the continental air forces. But the personnel statistics furnished by these agencies did not indicate the flow of personnel by MOS from the training schools to the units. After Pearl Harbor, when it became imperative that such information be available, AAF field agencies--the Replacement Control Depots--were installed in the continental air forces and the AAF training commands to provide them. At the same time, the first of the standard reports of the statistical control system, Form 127, was devised as the medium of transmission of these data. Thus, at the time the Directorate of Statistical Control was established on 9 March 1942, a rudimentary field organization was already in existence.

The Directorate of Statistical Control proceeded to obtain sanction for the conversion of the Replacement Control Depots from agencies concerned with personnel reporting exclusively to agencies which might handle any sort of data required of them by Headquarters AAF or the headquarters of their own commands. Two essential doctrines governing the operation of the statistical control system were laid down: the principle of command enforcement of the reporting directives; and the principle of the technical supervision of the field by the Statistical Con-

trol Division. The whole strength of the statistical control system depended upon the ingenious combination of these principles, which subjected reporting organizations to a double pressure. At the same time the second principle, that of technical supervision, safeguarded the Statistical Control Units against command interference in the exercise of their primary functions. This principle effected the centralization of administrative controls over the reporting system while the standardized procedures for obtaining the primary data were developed.

A tendency toward the decentralization of reporting which began in 1943 contained a certain danger in that categories of data were exempted from the supervision of the Division at Headquarters AAF. Carried to an extreme this tendency, together with the jealousies which Statistical Control aroused in various quarters, might well have succeeded in impairing the general structure of standardized reporting. The decentralization of detail in reporting, as distinguished from categories of reports, contained no such danger. On the contrary, it seemed to mean only the more efficient operation of the system as a whole.

It was always one of the practices of the statistical control system that reports were sent up through command channels so that all echelons would possess identical data. Originally "identical" meant identical in every way, but with the decentralization of operating responsibility to the field and the preoccupation of Headquarters AAF with planning and program control, so much detail appeared unnecessary. As the requirements of Headquarters AAF became more summary and more selective, command headquarters were left to set up their own requirements for data to be submitted on the standard

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forms, and "identical" came to mean simply "non-conflicting."

While the standard reports in the Zone of Interior thus became more flexible, certain types of reports for which requirements changed too frequently to be incorporated in formal directives--notably training reports--became more standardized. "Standard" and "non-standard" reporting in the statistical control system tended to approximate each other. At the same time, too, the long arm of Statistical Control reached out to the reports which were prepared in the field solely at the instance of command headquarters other than Headquarters AAF. Whether or not these reports were handled by the Statistical Control Units, the latter were charged in 1944 with a reports control function in respect to them.

A year before the last-mentioned development occurred, the statistical control system in the Zone of Interior had absorbed the Machine Records Units under The Adjutant General's jurisdiction which were servicing AAF organizations exclusively. This step provided the Statistical Control Units with their first considerable accession of mechanical equipment. This equipment, which had been used to service the SCU's located in the same headquarters as the MRU's, was brought under the technical supervision of Statistical Control. A reconciliation of the personnel reporting of Statistical Control and The Adjutant General's Office was also affected.

The Statistical Control Units in the Zone of Interior were at first regarded in their several headquarters as adjuncts of the A-1 staff sections, just as the Replacement Control Depots had been. The Statistical Control Division at Headquarters AAF insisted on the equality of the SCU's with other staff sections in their headquarters, and

propagated the idea that the SCU's existed to serve their commands in a variety of ways just as much as they existed to serve Headquarters AAF. This helped the SCU's gradually work into the specialties peculiar to their commands and eventually attain the position--not untested by other staff divisions--of a body of efficiency experts, a kind of staff division without portfolio.

While the basic-data reports of the statistical control system were required of AAF organizations in the field, the installation of Statistical Control Units to supervise the collection of the reports and accomplish their transmission to Headquarters AAF was, after the establishment of the original eight SCU's, optional with all commands activated prior to 25 March 1944. At the time it appeared anomalous to some commands that agencies should be established as an integral part of their headquarters without being entirely subject to command jurisdiction. It was easier to win acceptance for standardized reporting than it was to secure approval of the means to achieve it. In the summer of 1942 Headquarters AAF was induced to support Statistical Control in the latter's attempt to make the installation of SCU's in the commands and air forces of the Zone of Interior compulsory. Almost immediately, however, on account of a strenuous opposition from the Materiel Command, this policy was reversed. While Headquarters AAF supported Statistical Control in the exercise by the latter of a very large measure of technical supervision over SCU's where they existed, the affiliation of commands with the statistical control system became voluntary. This meant that Statistical Control had to engage in a considerable amount of high-pressure salesmanship for a year at least, but the talents of the principal officers of the

Statistical Control Division were equal to the task. In the long run Statistical Control probably gained, rather than lost, by the necessity of demonstrating to the field commands that it was actually desirable to have an SCU at their headquarters. When in the spring of 1944 a directive was promulgated requiring any newly activated command to include an SCO in its headquarters, Statistical Control had achieved the position of being pretty much taken for granted.

Statistical Control was just as anxious to establish a standardized reporting system overseas as it was to set one up in the Zone of Interior. But because Headquarters AAF had no direct jurisdiction over air force commanders in theaters of operations, the suggestion was never made that they be compelled to install Statistical Control Units. The establishment of the first overseas SCU's was accomplished through some very accomplished salesmanship, which suggests that the officers in the Division had profited by rebuffs at home and were determined not to offend any susceptibilities in overseas headquarters. Indeed, the installation of overseas SCU's may actually have been facilitated by the fact that the Statistical Control Division could not legally exercise any technical supervision over them, beyond requiring compliance with the War Department directives instituting the overseas reports of the statistical control system. For it had been the Division's power of technical supervision which in the Zone of Interior had aroused the opposition of certain commands to the establishment of SCU's.

As a matter of fact, the Statistical Control Division did exercise a good deal of supervision overseas extra-legally. Statistical officers who had been trained to regard themselves as missionaries for the principles of the statistical

control system respected the policies of the Division. The growth of theater statistical hierarchies facilitated contacts between Washington and the theater organizations. Moreover, representatives of Statistical Control went out of their way to maintain good diplomatic relations with the theater commands. Although in some instances compromises had to be made with the theater commands, as in regard to the submission of Form 34 in ETO, it is remarkable how much uniformity Statistical Control obtained through indirect means. Its one notable failure in the achievement of its objectives overseas was its inability to secure the consolidation of the functions of The Adjutant General's Machine Records Units with those of the Statistical Control Units elsewhere than in the Pacific theaters.

The question arises whether more diplomacy and less authority in the Zone of Interior might not have worked there just as well, or even better, than the imposition of technical supervision through formal directives. But a greater number and variety of reports was exacted by Headquarters AAF from Zone of Interior installations than from the theaters. It will be noticed that when the variety, number, and complexity of reports received from overseas had reached a point where the data resembled those that had been required of domestic SCU's early in their history, overseas SCU's had reached a mature stage of their development. Moreover, the AAF commands in the Zone of Interior were comparatively permanent organizations; they had a tradition of hostility to control exercised from Washington; and it was pretty clear that without the compulsion imposed by Headquarters directives, they would not have given the cooperation necessary to establish statistical control.

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The Statistical Control organization, extending throughout the Zone of Interior and all theaters of operations, was unique in the history of the armed forces. It was really a form of "big business." It incorporated the idea that war should be waged as business is conducted, with a strict accounting of gain and loss in terms of personnel and materiel if not in terms of dollars. It operated with speed and directness. From its personnel it demanded technical proficiency, hard work, and personal initiative. It was constructed with imagination, sagacity, and aggressiveness. Its builders frequently antagonized representatives of the pure army tradition. Sometimes, too, they were criticized by representatives of the managerial point of view for a tendency to exceed the functions of a service agency, or for failing to modify reporting directives suf-

ficiently fast to keep up with shifts of emphasis in the utility of the data. There was, however, no question that Statistical Control made the AAF incomparably the best informed of all branches of the armed forces with regard to the resources at their disposal and the expenditure of resources.

*At the very end of 1943 or the beginning of 1944, representatives from the office of the Secretary of the Navy inspected the statistical control system, and the *BuAer Production Division Digest* for 10 Jan. 1944 reported that "they were impressed by the thoroughness, smoothness and essential simplicity of the system which has been built up in the last eighteen months to supply the Air Force Command with all required statistics." (R&R, AFMSC to AFIHI, 14 Jan. 1944, in AFSHO). A Navy Board under Rear Admiral Radford studied the Statistical Control System further and in a report dated 4 May 1944 recommended that a comparable system be set up in the office of the Deputy Chief of Naval Operations (Air). (R&R, AFMSC to AFIHI, 6 Oct. 1944, in AFSHO). This was done, and a report for naval aircraft modelled on AAF Form 110 was instituted, but there was no central and general statistical control system for the Navy as a whole, or even for the Navy Air Corps.

GLOSSARY

| | | | |
|-------|---|-----------|---|
| AAF | Army Air Forces | CBI | China-Burma-India Theater |
| AAG | Air Adjutant General | C/S | Chief of Staff |
| AC | Air Corps | DC/AS | Deputy Chief of Air Staff |
| AC/AS | Assistant Chief of Air Staff | DC/S | Deputy Chief of Staff |
| ACFTC | Air Corps Flying Training Command | ETO | European Theater of Operations |
| AC/S | Assistant Chief of Staff | ETTC | Eastern Technical Training Command |
| ACTTC | Air Corps Technical Training Command | FEAF | Far Eastern Air Forces |
| AFCC | Air Force Combat Command | FTC | Flying Training Command |
| AFDMC | Director of Management Control | GCTC | Gulf Coast Training Center |
| AFDMR | Director of Military Requirements | GHQ AF | GHQ Air Force |
| AFDOP | Director of Personnel | Hq. O. I. | Headquarters Office Instructions |
| AFFTC | Flying Training Command | IBM | International Business Machine |
| AFIHI | Historical Division, AC/AS Intelligence | IG | Inspector General |
| AFMOP | Organizational Planning | I TCC | I Troop Carrier Command |
| AFMSC | Director of Statistical Control | MAAF | Mediterranean Allied Air Force |
| AFPMP | Military Personnel | MM&D | AC/AS Materiel, Maintenance, and Distribution |
| AFRES | Director of Base Services | MRU | Machine Record Unit |
| AFRIT | Director of Individual Training | M&S | AC/AS Materiel and Services |
| AFROM | Director of War Organization and Movement | OCAC | Office of the Chief of Air Corps |
| AFSHO | AAF Historical Office | OC&R | AC/AS Operations, Commitments, and Requirements |
| AFSSC | Office of Statistical Control | OPD | Chief of Staff, Operations Division |
| AFTAI | Air Inspector | RCD | Replacement Control Depot |
| AFTAS | Air Surgeon | S/AS | Secretary of the Air Staff |
| AFTRC | Training Command | SCO | Statistical Control Office |
| AG | Adjutant General | SCOR | Statistical Control and Operations Record Section |
| AGF | Army Ground Forces | SCU | Statistical Control Unit |
| AGO | Adjutant General's Office | SSN | Specification Serial Number |
| AR | Army Regulation | TTC | Technical Training Command |
| ASC | Air Service Command | USSTAF | United States Strategic Air Force |
| ASF | Army Service Forces | WD. | War Department |
| ATC | Air Transport Command | WDGS | War Department General Staff |
| ATSC | Air Technical Service Command | WFTC | Western Flying Training Command |
| C/AC | Chief of the Air Corps | | |
| C/AS | Chief of the Air Staff | | |

NOTES

CHAPTER 1

1. A centralized statistical system had not been without early advocates. In April 1929 a recommendation that a section be established with the responsibility of compiling all statistical data for the OCAC had elicited some favorable response (memo for Maj. Ira Longanecker from Lt. J. D. Barker, 26 April 1929; memo for the chiefs of all Divs. and independent Secs. from Maj. L. W. McIntosh, Exec., 1 May 1929; memo for Capt. E. E. Adler from S. N. Bernhardt, 27 May 1929; memo for Capt. E. E. Adler from H. B. Coulter, 28 May 1929, in AAG 321.9 C). A second proposal for the establishment of a central statistical section, made in 1931, was disapproved by the Plans Div. (memo for Maj. Junius W. Jones from Lt. L. P. Whitten, 30 July 1931; memo for the Exec. from Maj. Junius W. Jones, 3 Aug. 1931; memo for the Exec. from Lt. Col. Ira Longanecker, 17 Aug. 1931; memo for the Chief, Inspection Div. from Maj. W. R. Weaver, Chief, Plans Div., 3 Feb 1932, in AAG 321.9 C).
2. Air Historical Study No. 14, Inspection Control in the AAF 1939-1944, p. 11.
3. F. J. Reuter, "Survey of Statistical Projects Accomplished under the Administrative Direction of the Inspection Division, Office of the Chief of the Air Corps, and Some Special Statistical Projects Accomplished at Plans Division," 2 vols., *passim* (copy in AFSHO used; present location of the document is unknown).
4. "Report on Projects Completed and under Study during the Past Year in the Development Section," submitted to the Chief of the Inspection Div. by Earl Ritzert, Chief, Development Sec., 27 Jan. 1930, in AAG 321.9; AC Circular No. 15-5, 14 Oct. 1931 and 1 July 1932; AC Circular No. 15-3, 1 July 1932, and No. 15-3A, 12 Nov. 1932; ltr., Maj. B. M. Giles to C/AC, 5 June 1939, in AAG 321.9; ltr., Earl Ritzert to C/AC through Chief, Inspection Div., 29 Nov 1939, in personal files of Lt. Col. Ritzert; conversation with Lt. Col. Ritzert, 15 Nov. 1944; *Annual Report of the Chief of the Air Corps* (1932), p. 34; *ibid.* (1933), p. 24.
5. Memo for the Exec. from Lt. Col. W. R. Weaver, Chief, Information Div., 18 Oct. 1933, and memo for the Exec. from Capt. Max F. Schneider, Chief, Inspection Div., 20 Oct. 1933, in AAG 321.9; OCAC Memo 16-10A, 24 Oct. 1933.
6. WD Circular No. 120-1, 6 May 1927 and 4 Dec. 1936; AC Circular No. 120-1, 29 Feb. 1932 and 22 Sept. 1933, memo for Chief, Information Div., from Maj. F. L. Martin, Chief, Inspection Div., 13 Feb. 1928, in AAG 321.9; 1st ind. (ltr. Col. C. C. Culver to C/AC, n.d.), Maj. Delos C. Emmons to C/AC, 9 April 1928, in AAG 321.9; ltr., Earl Ritzert to C/AC thru Chief, Inspection Div., 29 Nov. 1939, in personal files of Lt. Col. Ritzert, AHS-14, pp. 12-13.
7. Ltr., Earl Ritzert to C/AC, 29 Nov. 1939, in personal files of Lt. Col. Ritzert; AHS-14, pp. 18-19.
8. Ltrs., Lt. Col. Harvey S. Burwell to Maj. Gen. H. H. Arnold, July (?) 1939, and Maj. Gen. H. H. Arnold to Lt. Col. Harvey S. Burwell, 22 July 1939, in AAG 321.9.
9. Ltr., Earl Ritzert to C/AC thru Chief, Inspection Div., 29 Nov. 1939, in personal files of Lt. Col. Ritzert.
10. R&R, Inspection Div. to C/AC, 29 April 1940, in AAG 321.9.
11. Memo for C/AC from Earl Ritzert, 15 Aug. 1940, unsigned copy in personal file of Lt. Col. Ritzert.

12. R&R, Lt. Col. R. A. Dunn to Maj. Gen. H. H. Arnold, 14 Aug. 1940; R&R, Asst. Exec. to Inspection Div., 17 Aug. 1940; R&R, Inspection Div. to Exec., 31 Aug. 1940 (all in AFSSC Central File). The flying time project was "destined to complete failure" (R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO files).
13. OCAC memo 10-10A, 25 Feb. 1941.
14. OCAC memo 10-10, 23 Nov. 1940.
15. R&R, No. 3, Inspection Div. to Lt. Col. R. A. Dunn, 11 Oct. 1940, in AAG 321.9.
16. R&R, Inspection Div. to Lt. Col. R. A. Dunn, 30 Oct. 1940, in AAG 321.9D; R&R, No. 2, Exec. to Chief Clerk, 12 Nov. 1940, in AAG 321.9D; memo rpt. to the S/AS from Capt. James M. Farrar, 28 Oct. 1941, in AAG 321.9F.
17. R&R, Rsch. and Stat. Sect. to Chief, Civilian Personnel Div., 3 Mar. 1941, in AAG 321.9D.
18. OCAC memo 10-48, 23 April 1941.
19. OCAC memo 10-10, 23 Nov. 1940, and attached chart; memo for TAI from S/AS, 23 Feb. 1942, in AAG 321.9.
20. Annual Rpt. of the Chief, MD, AC (1927), p. 100.
21. *Ibid.*, (1931), p. 173; (1932), Part I, p. 64.
22. Annual Rpt. of the C/AC (1936), p. 34.
23. MD, Ltr. of Instructions No. 1, 2 Oct. 1939.
24. MD Notice No. 80, 22 Jan. 1941.
25. MD Notice No. 81, 13 Feb. 1941; Rsch. and Stat. Sect., Project AP 2022, Orgn. and Function CHARTS, April 30, 1941, Chart 4-H, in AFSHO files.
26. It was placed under the Technical Exec. By 1 Dec. 1941 it was no longer at staff level, but this fact apparently meant no reduction in its importance. Hist. AAFMC, 1926 thru 1941, App. A, Chart A-8, Orgn. of the MD [2 Oct. 1939], and Chart A-14, Orgn. of the MD [1 Dec. 1941].
27. MD, Ltr. of Instructions No. 1, 2 Oct. 1939.
28. Annual Rpt. C/AC (1939), pp. 36-37.
29. Production Engr. Sect. Office Memo No. 41-55, 26 April 1941, copy in Hist. AAFMC, 1926 thru 1941, App. E, Doc. 7.
30. Hist. AAFMC, 1926 thru 1941, pp. 72-73 and note 106. Reference is here made to a memo of the Asst. Chief, MD, to Sect. and Branch Chiefs, 6 June 1941.
31. Memo from the Exec., Materiel Div. for all Sections, 1 Dec. 1941, and attached copy of teletype, Budget Office to the Exec., 28 Nov. 1941, in AC/AS-4, Office File of Memos.
32. Memo for C/AS from Brig. Gen. O. P. Echols, Asst. for Procurement Services, 23 Feb. 1942, in AAG 321.9.
33. Compare chart attached to OCAC memo 10-10, 23 Nov. 1940, with chart attached to memo for the Exec. Plans Div., by Capt. James M. Farrar, 26 May 1941, in AAG 321.9D. The latter indicates the organization of the OCAC as of 25 Feb. 1941.
34. Memo for Chief, Plans Div. from C/AC, 8 April 1940, in AAG 321.9 A2.
35. R&R, Chief, Plans Div. to Chief, Civilian Personnel Div., 20 Mar. 1941, in AFSHO 322.082.
36. *Ibid.*
37. Memo for the Chief, Administrative Div. from Capt. J. M. Farrar, 14 April 1941, in AFSSC.
38. R&R, Chief, Administrative Div. to Exec., 15 April 1941, in AAG 321.9.
39. R&R, No. 3, Plans Div. to Exec., 19 April 1941, in AAG 321.9.
40. R&R, No. 4, Exec. to Administrative Div., 21 April 1941, and subsequent comments through No. 7, in AAG 321.9. In Ritzert's absence, John L. Baber was appointed Actg. Chief of the Rsch. and Stat. Sect. (memo for all personnel, Rsch. and Stat. Sect. from Chief, Administrative Div., 28 April 1941, in AFSSC Central File).

41. R&R, No. 3, Plans Div. to Exec., 19 April 1941, in AAG 321.9; memo for all Div. Chiefs from Col. George E. Stratemeyer, Exec., 30 April 1941, in AAG 321.9D.
42. Memo for Exec., Plans Div., from Capt. James M. Farrar, Chief, Stat. Sect. 21 May 1941, in AFSHO; "Recommendations of the Plans Div. for the Reorganization of the OCAC," 3 June 1941, in AAG Bulk.
43. *Ibid.*
44. About this time C. B. Thornton, who later became Director of Stat. Control, was brought into the Stat. Sect. as chief statistician.
45. Sum. Rpt. by Wallace Clark and Company, 21 Nov. 1941, Report No. 6, Stat. Sect., 2-3, in AAG 321.9.
46. R&R, C/AS to Chief, Administrative Div., 9 Aug. 1941, in 319 Misc., Plans Div. files, AFSHO.
47. Memo rpt. from Capt. James M. Farrar to S/AS, 28 Oct. 1941, in AAG 321.9 F; OCAC, Exec. Office, Plans Sect., "Survey Report on the Administrative Division," 1 Nov. 1941, in AAG 321; R&R, No. 5, Administrative Div. to Exec., 17 Dec. 1941, in AFSSC Central File; AC Circular 15-5A, 21 Aug. 1941.
48. OCAC memo 10-10B, 29 Aug. 1941.
49. Memo rpt. from Capt. James M. Farrar to S/AS, 28 Oct. 1941, in AAF 321.9 F.
50. *Ibid.*
51. Memo for C/AC *et al.* from Brig. Gen. Carl Spaatz, 2 Dec. 1941, in AAG 321.9 F.
52. R&R, Actg. Chief, Rsch. and Stat. Sect. to Chief, Administrative Div., 27 [29?] Sept. 1941, with attached extracts from Daily Diaries, Rsch. and Stat. Sect., for 27 and 29 Sept., in AFSSC Central File; R&R, No. 3, Administrative Div. to Exec., 1 Oct. 1941, in AFSSC Central File; memo for Chief, Administrative Div. by Actg. Chief, Rsch. and Stat. Sect., 10 Oct. 1941, in AFSSC Central File; R&R, Exec., Plans Sect., Stat. to Civilian Personnel Div., 5 Nov. 1941, in AFSSC Control File.
53. R&R, Capt. James M. Farrar to Lt. Col. B. E. Gates, 15 Oct. 1941, in AAG 321.9 D; memo for Lt. Col. B. E. Gates from James Sinnegen, 22 Oct. 1941, in AAG 321.9; Exec. Office, Plans Sect., "Survey Report on the Administrative Division," 1 Nov. 1941; Wallace Clark and Company Survey of Air Staff, Report No. 6, Stat. Sect., Fig. 2, pp. 1-2, in AAG 321.9.
54. A document entitled "Data Requested from General Arnold by Senator Taft. Casualties Concerning Aviation Trainees and Airplanes," dated 21 Oct. 1941, is signed by F. J. Reuter, who is identified with the Statistical Unit, Plans Section, OCAC. M. B. MacCatherine, who later became Assistant Director of Statistical Control, was brought into AAF organization at this time as Chief of the OCAC Statistics Section.
55. Summary rpt. by Wallace Clark and Company, 21 Nov. 1941, Report No. 6, Stat. Sect., Fig. 2, p. 2, in AAG 321.9; rpt. on projects by Exec. Plans Sect. Stat. 12 Nov. 1941, in AFSSC Central File; memo rpt. from Capt. James M. Farrar to S/AS, 28 Oct. 1941, in AAG 321.9 F; R&R, Military Personnel Div. to Exec., and subsequent comments, 22 Sept. 1941-1 Jan. 1942, in AFSSC Central File; R&R Actg. Chief, Rsch. and Stat. Sect. to Chief, Administrative Div., 27 [29?] Sept. 1941, with attached extracts from Daily Diaries, Rsch. and Stat. Sect., for 27 and 29 Sept., in AFSSC Central File.
56. However, Statistics, OCAC, tabulated the data from Form 5 so that it would be accessible to other offices and undertook a revision of Form 5 in accordance with its responsibility of supervising the nodes of OCAC statistical reporting (R&R, Chief, Administrative Div. to Plans, OCAC, and subsequent comments, 5 Sept.-19 Dec. 1941, in AFSSC Central File).
57. R&R, Plans Sect., Stat. to Chief Clerk, 7 Nov. 1941; memo for C/AC from Brig. Gen. M. S. Fairchild, Exec. 26 Nov. 1941; memo for Lt. Col. B. E. Gates from M. B. MacCatherine, 5 Dec. 1941 (all in AFSSC Central File). It appears that the flight record project might have been completely dropped in Nov. 1941, and only data tabulated through

June was available to the other offices (R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO).

58. M. B. MacCatherine (hereafter cited as MacCatherine) draft, Hist. of AAF Stat. Control System, 1942 thru 1944, p. 1.
59. Conversation with Col. C. B. Thornton, 17 Nov. 1944.
60. OCAC memo 10-10D, 24 Dec. 1941; AHS No. 10, Organization of the Army Air Arm 1935-1943, Appendix I, Chart F, 139.
61. Memo for C/AC from Lt. Col. J. G. Taylor, Chief, Intel., 31 Dec. 1941, Tab C, Incl. 1, in AAG 321.9 H; R&R, AFDMC to AFNSC, 13 Mar. 1942, in AFSSC Central File.
62. R&R, Exec., OCAC to Asst. Exec. for Administrative Planning and Coordination, 2 Feb. 1942, in AAG 321.9 D.
63. Memo for CG ACFTC, CG ACTTC *et al.* from AAG, 9 Feb. 1942, in AAG 321.9.
64. *Ibid.*
65. R&R, M. B. MacCatherine to Asst. Exec. for Administrative Planning and Coord., 17 Feb. 1942, in AFSSC Central File.
66. Attached to R&R, M. B. MacCatherine to Asst. Exec. for Administrative Planning and Coord., 26 Feb. 1942, in AAG 321.9.
67. Memo for C/AS from Brig. Gen. O. P. Echols, 23 Feb. 1942, in AAG 321.9.
68. J. S. C [anterbury], Daily Rpt. of Program Planning, Scheduling, and Control Div., [Budget Bur. Committee on AAF Reorganization], 3 Mar. 1942, in Office File of Bureau of the Budget.
69. Col. Thornton, in a conversation of 17 Oct. 1944, said that after Pearl Harbor, Kuter, Gates, Lovett, and he worked together to set up what became the statistical control system.
70. Ltr., Col. H. S. Burwell to Maj. Gen. H. H. Arnold, July (?) 1939, in AAG 321.9. Col. Burwell was sponsored by Brig. Gen. Spaatz, C/AS, and was associated closely with Maj. Gen. Weaver, who shortly thereafter became Acting C/AC (Conversation, 6 Dec. 1944, with Ensign John S. Canterbury, who in Dec. 1941 was assigned to Col. Burwell's office on behalf of the Bureau of the Budget by J. L. Jacobs, consultant management engineer).
71. J. L. Jacobs and Mr. Rouzitsky, "Interview with Colonel Burwell on December 10 and Staff Conference on December 11," first draft, 12 Dec. 1941, and second draft, 15 Dec. 1941, in Office File of Bur. Budget; conversation with Ensign John S. Canterbury, 6 Dec. 1944; R&R, No. 3, AS/SS to A-4, 16 Dec. 1941, in AAG 321.9H.
72. R&R, Actg. C/AC to Asst. for Procurement Services, 27 Dec. 1941; J. S. C [anterbury], Daily Rpt. for 19 Jan. 1942, both in Office File of Bur. Budget; conversation with Ensign John S. Canterbury, 6 Dec. 1944.
73. J. L. Jacobs and Mr. Rouzitsky, "Interview with Colonel Burwell on December 10 and Staff Conference on December 11," Second Draft, 15 Dec. 1941, in Office File of Bur. Budget.
74. Memo for Lt. Col. B. E. Gates from M. B. MacCatherine, 22 Dec. 1941, in AFSSC Central File, refers to Col. Burwell's idea of collecting OCAC statistics, especially those of the MD, through a liaison officer. See also Hq. AAF, Stat. Control Memo No. 1, 15 Jan. 1942, in AAG 319.1A; R&R, C/CA to MD, 15 Jan. 1942, in AAG 319.1A.
75. Ltr., TAG to CG AFCC, 28 Jan. 1942, in AG 320.2; TAG to CG AFCC *et al.*, 2 Feb. 1942, in AG 320.2.
76. AAF Reg. No. 15-127, 23 Feb. 1942.
77. Conversation with Colonel Thornton, 16 Nov. 1944.
78. Conversation with Ensign John S. Canterbury, 6 Dec. 1944.
79. AAF Reg. No. 20-2, 2 Feb. 1942.
80. Memo for Maj. Willard S. Paul, AGO, from Earl Ritzert, 27 May 1940, in personal files of Col. Ritzert; TAG to Corps Area and Department Comdrs., 17 July 1940, in AG 310 (7-17-40) EX; memo for C/AC from Robert A. Patterson,

AS/W, 27 Aug. 1940, in AFSSC Central File.

81. TAG to Corps Area and Department Comdrs. and CG GHQ AF, 8 Oct. 1940, in AG 310 (10-8-40) EX; TAG to same, 9 Oct. 1940, in AG 310 (10-9-40) EX; TAG to Chiefs of Arms and Services, Corps Area Comdrs. et al., 30 Oct. 1940, in AG 310 (10-30-40) EX.
82. Memo for Col. R. A. Dunn from Maj. B. M. Giles, 16 Oct. 1940, in AFSSC Central File.
83. *Ibid.*, memo for Maj. Willard S. Paul, AGO, from Earl Ritzert, 27 May 1940, in personal files of Lt. Col. Ritzert.
84. R&R, Mil. Personnel Div. to Exec., and subsequent comments, 22 Sept.-1 Oct. 1941, in AFSSC Central File.
85. TAG to CG, 4th Corps Area and Subsequent indorsements, 29 July-24 Nov. 1941, in AAG 300, 310; R&R No. 2, Air Staff Stat. Offices to AAG, 14 Nov. 1941, in AAG 300; memo for AC/S from TAG, 25 Nov. 1941, in AAG 321.9 H; R&R, No. 5, CCAC, Plans Sect. Stat. to T&O, 27 Nov. 1941, in AFSSC Central File, R&R, No. 2, A-1 to AAF AA [sic], and subsequent comments, 11-16 Dec. 1941, in AAG 321.9 H; report of conference between Stat. Control and TAG, 7 May 1942, in AFSSC Central File.
86. Maj. C. B. Thornton to TAG, 28 July 1942, in AFSSC Central File; map from office of AFMSC, showing areas serviced by MRU's of the four air forces, actual and planned as of 9 May 1942, in AFSSC Central File.
87. AAF, "Statements of Functions," revised to 6 Mar. 1942.
88. Organizational Chart (proposed), Office, Director of Stat. Control, 9 Mar. 1942, attached to memo for AFDMC from C. B. Thornton, 9 Mar. 1942, in AAG 321.9.
89. Functional Orgn. of the Office, Director of Stat. Control, 7 Mar. 1942, attached to memo for AFDMC from C. B. Thornton, 9 Mar. 1942, in AAG 321.9.
90. *Ibid.*
91. Chart showing proposed organization of the AAF as of 19 Feb. 1942, in Office

of Bur. Budget; "Notes of Meeting, February 27, 8:30 A.M.," in Office of Bur. Budget.

CHAPTER 2

1. All International Business Machine (IBM) machinery used in the SCU's, both continental and overseas, as well as in the division at Washington, was accounted for in the Statistical Control budget. Inasmuch as the annual rental of the machinery was several millions, the Machine Services Branch of the Division conducted "time-studies" of the equipment used in the continental SCU's in order to prevent the latter from holding more machines than would be required under maximum utilization. Time-studies were not conducted for overseas SCU's because in the theaters the division had no facilities for moving the equipment from one place to another, no overtime rental was paid on overseas machines, and there would have been difficulties with the T/O type of personnel authorization, which continued to be employed overseas after it was given up in the Zone of Interior. All new machinery used in the statistical control system was procured by the Division. The enormous teletype network of the ATSC, used primarily for administrative business peculiar to that command, was covered by the latter's budget but the lines from Washington to the other SCU's were accounted for in the Statistical Control budget. (Conversations with Maj. W. W. Richardson, 17 Jan. 1945, and with Lt. Col. Geo. W. Waters, 16 May 1945; R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO).
2. MacCatherine, pp. 18-19, 34-35, 37-39, 42-43, 48-49, 69-70, 77, 88, 133, 149, 170. Other sources are: Organizational Planning and Statistical Control, Survey of Stat. Control Div., 2 vols., [1944], in AFSSC; Functional Organization Chart of the Office, Director of Stat. Control, 7 March 1942, attached to memo for AFDMC from Lt. Col. Thornton, 9 Mar. 1942, in AAG 321.9; AFMSC Order No. 29, 7 Dec. 1942, in AFSSC Executive Office File and AAG 310.1; Functional Organization Chart, Stat. Control Div. 29 Mar. 1943, in AFSHO; AFMSC Order No. 29 (revised), 19 June 1943, in AFSSC Executive Office File; Organization and Function Chart, Stat. Control Div.,

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- 30 Dec. 1944, in AFSSC; Organization and Functions Chart, Stat. Control Div., 1 May and 1 June 1945, in AFSHO; notes by Lt. Col. B. F. Cumming on hist. of Personnel Statistics Branch, notes on hist. of Training and Operations Branch, Aircraft and Equipment Branch, and Combat Operations Branch, all in files of M. B. MacCatherine, AFMSC; hist. of Combat Operations Branch, in AFSSC, file of Maj. J. G. Osborne, Combat Operations Branch; R&Rs, AFMSC to AFSHO, 12 April and 1 Aug. 1945, in AFSHO, R&R, Operational Plans to MC, 1 May 1942, and R&R, AFMSC to Operational Plans, 1 May 1942, in AFSSC Central File; memo for Lt. Col. Brandon Barringer from Capt. E. R. Finch, 15 Jan. 1943, and memo for Personnel Stat. Sect. by M. B. MacCatherine, 19 Jan. 1943, in AFSSC Central File; conversations with Maj. W. W. Richardson and Capt. V. R. Cheek, 17 Jan. 1945, with George B. Dantzig, 29 Jan. 1945, with Lt. Col. F. Q. Brown, Jr. 31 Jan. 1945; with Lt. Col. A. D. Theobald, 10 May 1945; telephone conversation with Maj. Walter Jasinsky, 1 June 1945; and Hq. O.I. 20-91, 27 June 1945. The Combat Opns. Branch, Office of Stat. Control, was inactivated on 15 Nov. 1945. During its existence it processed approximately 30,000,000 figures on combat missions. its principal contribution was that it "provided the facts necessary for calculating requirements of the major components entering into a combat mission--aircraft, crews, bombs, and gasoline, which made possible the balanced air force program. (R&R, AFSSC to AFSHO, 28 Nov. 1945, in AFSHO).
3. R&R, DC/AS to AFDMC, 3 Apr. 1942, in AFSSC.
 4. R&R, AFMSC to AFDMC, 14 Apr. 1942, in AFSSC.
 5. Memo for Col. B. E. Gates from Capt. C. B. Thornton, 17 Apr. 1942, in AFSHO.
 6. Memo for the CG MC from Col. B. E. Gates, 25 May 1942, in AFSHO.
 7. AAF Reg. No. 80-2, 14 Apr. 1942.
 8. Hq. O.I. No. 80-32, 9 June 1943.
 9. AAF letters 80-3, 7 Dec. 1943, 80-3A, 15 Mar. 1944, 80-5, 6 Jan. 1944; AAF Reg. No. 80-2, 31 July 1944 and 1 Jan. 1945.
 10. R&R, Flying Safety to AFMSC, 8 May 1942; AFMSC to Flying Safety, 10 Aug. 1942; AFMSC to Flying Safety, 29 Sept. 1942; AFTAS to AFDMC, 17 Dec. 1942; AFMSC to AFTAS, 22 Dec. 1942; AFMSC to Director of Air Traffic and Safety, 24 Feb. 1943, AFMSC to Requirements Div., OC&R, 13 May 1943, all in AFSSC; R&R, AFMSC to AFIHI, 29 Oct. 1943, in AFSHO.
 11. R&R, AFTAS to AFDMC, 1 June 1942, and AFMSC to AFTAS, 18 June 1942, in AFSSC; R&R, Maj. Gen. D. N. W. Grant to Brig. Gen. B. E. Gates, 26 Oct. 1944, in AFSSC.
 12. Organizational Planning Staff Notes, 8 Jan. 1943 [1944], in AFSSC.
 13. R&R's, AFMSC to AFIHI, 1 Oct. 1943, 31 Mar. 1944, and 2 Jan. 1945, in AFSHO.
 14. R&R, Resources Div., MM&D, to AFMSC, 7 June 1944, and AFMSC to Resources Div., MM&D, 17 June 1944, in AFSSC.
 15. Ltr., Maj. C. B. Thornton to AAF Stat. School, 24 June 1942, in AAG 000.800. See Report No. SC-U-4, Monthly Listing of Recurring Rpts. prepared and Distributed by the Stat. Control Div. as of 30 Sept. 1944.
 16. R&R, AC/AS, Intel. to Brig. Gens. T. J. Hanley, L. G. Saunders, and W. E. Hall, 19 May 1943, in AAG 319.1.
 17. R&R, AC/AS, Intel. to AFMSC, 2 Oct. 1943, and AFMSC to AC/AS Intel., 29 Oct. 1943, in AAG 319.1; R&R, OC&R, Commitments Div. to AFMSC, 25 Mar. 1944, and AFMSC to OC&R, Commitments Div. 8 Apr. 1944, in AAG 319.1.
 18. "Organization of the Army Air Arm," 104-05, 107.
 19. Memo for Lt. Col. J. W. Aston from Lt. Col. F. R. Schneider, 20 Feb. 1943, in AAG 310.1.
 20. MacCatherine, pp. 65-66.
 21. Survey of Stat. Control. Div., Vol. I, Materiel Stat. Branch.

22. AHS-10, pp. 119-24.
23. R&R, AFSSC to AFSHO, 11 Jan. 1946, in AFSHO.
24. R&R, AFSSC to AFSHO, 20 Dec. 1945, in AFSHO.
25. R&R, AFMSC to AC/AS Plans, 9 June 1943, in AFSSC.
26. R&R, AC/AS, Plans to AC/AS, Training and subsequent comments, 2 July-9 Aug. 1943, in AFSSC.
27. R&R, AFMSC to AFIHI, 28 Sept. 1943, in AFSHO; MacCatherine, p. 74.
28. R&R, AFMSC to AFIHI, 21 Sept. 1943, in AFSHO; R&R, AFMSC to AFIHI, 12 Oct. 1943, in AFSHO; MacCatherine, pp. 76-77.
29. Conversation with Maj. W. C. MacMillen, 9 May 1945; R&R, AFDMC to OC&R, 5 Aug. 1944, in AFSSC; MacCatherine, pp. 137-38. It is worthy of note that as a result of a study by E. P. Learned, D. T. Smith and others for the War Department General Staff it was recommended in the summary of 1945 that an over-all personnel management system similar to that in effect in the AAF be adopted for the ASF, AGF, overseas commands, and the General Staff. Some parts of these recommendations were adopted but their discussion does not fall within the scope of this paper. (See R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO, and file on W.D. Replacement System, in Personnel Statistics Branch, AFSSC).
30. R&Rs, Air Ordnance Officer to AFMSC, 2 Sept. 1943, and AFMSC to Air Ordnance Officer, 6 Sept. 1943, in AFSSC.
31. MacCatherine, p. 78.
32. R&Rs, Air Ordnance Officer to AFMSC, 19 April 1944, and AFMSC to Air Ordnance Officer, 22 Apr. 1944, in AFSSC.
33. MacCatherine, p. 140.
34. *Ibid.*, pp. 135-36.
35. R&R, AFMSC to AFIHI, 9 Nov. 1943, in AFSHO; R&R, AFMSC to OC&R, Special Projects, and subsequent comments, 10-15 Nov. 1943, in AFSSC.
36. Conversation with Edmund P. Learned, 19 May 1945; R&R, Programs Div., OC&R, to AC/AS, OC&R and subsequent comments, 1-13 Dec. 1943, in AAG 310.1.
37. Conversation with Lt. Col. J. Brindle and Capt. G. T. Ragsdale, of the Office of the Advisor for Program Control, 19 May 1945.
38. George Dantzig, Chief of Combat Opns. Branch, has emphasized the role of stat. control in "educating" the Air Staff in the use of experience data obtained from operations analysis (conversation, 29 Jan. 1945).
39. Edmund P. Learned to Col. C. B. Thornton, 26 Nov. 1945, in AFSHO.
40. R&R, AFMSC to AC/AS Intel., 19 Feb. 1943, and AC/AS Intel. to AFDMC, 11 Mar. 1943; in R&R, AC/AS Intel. to AFDMC, 11 Mar. 1943, R&R, AFMSC to AC/AS Intel., 23 Mar. 1943 (all in AFSSC Central File).
41. Memo of conference between representatives of Intel. and Stat. Control, by Col. William C. Bentley and Lt. Col. Brandon Barringer, 2 Apr. 1943, in AFSSC; R&R, AFMSC to AC/AS, Intel., 8 Apr. 1944, in AFSSC.
42. R&R, AFMSC to AFMOP, 3 Oct. 1944, in AFSSC; R&Rs, Joint Target Group to AFMSC, 17 Nov. 1944, and AFMSC to Joint Target Group, 24 Nov. 1944, in AFMSC.
43. Notes on hist. Combat Opns. Branch, 1944, in Combat Opn. Branch File; MacCatherine, p. 141.
44. Col. C. B. Thornton, "Stat. Control in the USAAF," pp. 70, 124-26, draft report prepared for submission to the CG AAF, Dec. 1945, in M. B. MacCatherine's files (hereinafter cited as Thornton report). Because of the absence of the CG AAF and the separation of Col. Thornton, this report was never submitted. For other examples of the importance of AFSSC studies in Headquarters operation, see Thornton report. An interesting service of Stat. Control was the furnishing to the AAF Center

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of the names and assignments of seven enlisted men with serial numbers the last four digits of which were "8837" and whose last names began with "M." This information was desired for use in an unsolved murder case in Sept. 1944 near Orlando, Fla., involving the discovery of a fatigue jacket, bearing the laundry mark "M-8837," buried near the scene of the crime (R&R, AFSSC to AFSHO, 14 Sept. 1945 in AFSHO).

CHAPTER 3

1. Conversation with Col. Brandon Barringer, 16 Jan. 1945; conversation with Foster Adams, Joseph Senturia, and Maj. R. V. Bibbero, 3 Apr. 1945.
2. The limits of a reporting jurisdiction coincided with those of the command serviced by the agency having such jurisdiction. A Detachment was an organization whose personnel were covered by the same T/O as the parent Unit; that is, they were actually assigned to the Unit, though they operated elsewhere. With the introduction of exact manning in the continental United States in 1944, the Statistical Control Units generally became known as Statistical Control Offices (SCO's) and the Detachments as Sections.
3. AAF Reg. No. 20-11, 2 July 1942.
4. AAF Reg. No. 80-1, 15 Aug. 1942. In the superseding Regulation of the same number, the last clause was changed to read thus: "The Director of Management Control will exercise supervision and control of a technical nature only over such units." This was a distinction without a difference.
5. AAF Reg. Nos. 20-11, 15 Oct. 1942 and 25 Mar. 1944; 20-2, 25 Mar. 1943.
6. AAF Reg. No. 20-2, 2 Feb. 1942.
7. Ltr., Lt. Theo Cheaney to Edmund P. Learned, 11 Oct. 1942, in AFSSC.
8. Ltrs., Lt. John A. Skipton to "Unkle Ed" [Edmund P. Learned], 5 Sept. 1942, and Lt. E. M. Kogan to the CO AAF Stat. School, 4 Sept. 1942, attached to letter to the Chief of Field Services, ASC, attention Capt. D. M. Barringer, CO 15th SCU, from Maj. C. B. Thornton, 17 Sept. 1942, in AFSSC; R&R, Lt. Col. C. B. Thornton to AFPMP, 9 Oct. 1942, in AAG 210.31; R&R, Col. B. E. Gates to CG 1st AF, [ca. 1 Oct. 1942], in AAG 210.31; ltr., Lt. Col. C. B. Thornton to Dan. T. Smith, 27 Oct. 1942, in AFSSC Central File.
9. AAF Reg. No. 20-2, 25 Mar. 1943.
10. Memo for the C/AS from Brig. Gen. B. E. Gates, 1 Dec. 1943, in AAG 211.
11. Memo for AC/AS, Personnel from Lt. Gen. Barney M. Giles, 30 May 1944, in AAG 210.31.
12. Ltr., CG 4th AF to AC/AS, Personnel, 28 July 1944, in AFSSC; R&R, AC/AS, Personnel to C/AS and subsequent comments, 2-14 Aug. 1944, in AFSSC.
13. R&R, AFMSC to AFROM, 9 Oct. 1942, in AFSSC.
14. R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO.
15. AAF Reg. No. 20-11, 15 Oct. 1942.
16. R&R, AFRBS to AFDMC and subsequent comments, 11 Mar.-21 May 1943, in AFSSC; AAF Reg. No. 20-11, 25 Mar. 1944.
17. MacCatherine, p. 178.
18. 1st ind. (ltr., Brig. Gen. E. E. Adler to Brig. Gen. B. E. Gates, 23 Feb. 1944), Maj. J. O. Wright to CG ASC, 3 Mar. 1944, in AFSSC.
19. MacCatherine, p. 179.
20. Conversation with Col. D. M. Barringer, CO SCO, 2d AF, 29 Jan. 1945.
21. MacCatherine, pp. 175-76.
22. Ltr., Lt. Col. C. B. Thornton to the Commandant, AAF Stat. School, 23 Oct. 1943, in AAG 300.8; AAF Reg. No. 20-11, 25 Mar. 1944.
23. The files for 1942 are full of complaints of the Directorate of Stat. Control in regard to delinquencies. For remedial measures see R&Rs, AFMSC to CG, ATC, 9 Dec. 1942; Headquarters, GCTC to APDMC, 25 Mar. 1943, in AAG 322; Deputy

- Chief for A/C and Opns., AFMSC to CO 15th SCU, 12 Apr. 1943; same to same, 20 April 1943; AFMSC to CG 4th AF, 15 June 1943; Chief, A/C and Engine Stat. Branch, 15th SCU to Detachment Comdrs., 31 Mar. 1944; all in AAG 319.1.
24. AAF Reg. No. 20-11, 2 July 1942.
 25. Excerpt, ltr. from Administrative Supervisor, Tampa, Fla., to AFTAI, 19 Jan. 1943, attached to R&R, AFMSC to AFTAI, 30 Jan. 1943, in AFSSC.
 26. Maj. John M. Leavens to Lt. Col. W. W. McMillan, 12 Jan. 1943, in AFSSC.
 27. Ltr., Col. B. E. Gates to the CG ASC, in AFSSC; memo for CG ITCC from Col. Gates, 28 Jan. 1943, in AAG 337.
 28. Memo for CG 2d AF from Col. B. E. Gates, 22 Jan. 1943, in AAG 211; ltr., Col. Gates to CG ASC, 22 Jan. 1943, in AFSSC; similar letters to other commands in AFSSC Central File and in AAG 211.
 29. Ltr., Lt. Col. C. Esco Obermann to AFDMC, 20 Feb. 1943, in AAG 322; Brig. Gen. B. E. Gates to CG Southeast TC, 7 June 1943, in AAG 211; rpt. of Field Coordination Officer, 6th SCU, on station at Courtland Army Air Field, 6 Nov. 1943, in AAG 319.1; rpt., Maj. Bryce Blunn, CO 18th SCU, to AFMSC, 3 Feb. 1944, in AAG 319.1; several reports by Field Coordination Officer, 6th SCU, for stations visited in Apr. 1944, in AAG 322.
 30. Memo for all Div. Chiefs from Lt. Col. C. B. Thornton, 16 Nov. 1942, in AFSSC, R&R, AFMSC to CO 16th SCU, 21 Nov. 1942, in AFSSC.
 31. Hist. WFTC, Installment III, Vol. V, pp. 1269-70, in AFSHO.
 32. Ltr., Col. B. E. Gates to CG 3d AF, 21 Nov. 1942, in AFSSC; ltr., Col. Gates to CG TTC, 23 Nov. 1942, in AFSSC, memo for Asst DC/S from Brig. Gen. Gates, 27 July 1944, in AFSSC.
 33. Ltr., Lt. Col. C. B. Thornton to Lt. Col. G. M. Jones, Stat. Div., AFFTC, 6 Mar. 1943, in AFSSC.
 34. Memo for Col. C. B. Thornton from Col. Brandon Barringer, 30 May 1944, in AFSSC; second communication from Col. Barringer to Col. Thornton, 30 May 1944, in AFSSC. As it happened, the potential clash of loyalties never developed.
 35. Conversation with Col. Brandon Barringer, 16 Jan. 1945.
 36. The sections outside the continental United States have often been referred to loosely as overseas SCU's. This is incorrect, for the ATC, unlike an overseas air force, was directly under the command jurisdiction of Hq. AAF, and its Stat. Control Div. and several sections, unlike the SCU's attached to overseas air forces or theater commands, were directly under the Technical supervision of the Stat. Control Div. at Hq. AAF.
 37. The 12th SCU was disbanded in 1944 when the Central Technical Training Command was dissolved.
 38. 1st ind., (ltr., Hq. AFTRC to Brig. Gen. B. E. Gates, 12 Jan. 1944) Brig. Gen. Gates to CG AFTRC, 1 Feb. 1944, in AAG 319.1.
 39. Ltr., Col. B. E. Gates, to CG 3d AF, 21 Nov. 1942, in AFSSC.
 40. R&R, AFMSC to AFIHI, 2 and 23 Jan. 1945, and 27 Mar. 1945, in AFSHO.
 41. AAF ltr. 221, 11 Feb. 1942, AAF Reg. No. 15-127, 23 Feb. 1942; ltr., Hq. AAF, "Operation of Air Force Replacement Depots (Overseas)," 10 Mar. 1942, referred to in ltr., Hq., 6th AF to AFMSC, 25 Oct. 1943, in AFSSC (cf. unsigned draft with MS emendations of letter to the CG's of overseas air forces, 18 Feb. 1942, re operation of overseas Replacement Depots, and document entitled "Plan for Colonel Rice," n.d. [March? 1942], in AC/AS Personnel, Plans Div. File, Project No. 14); 3d AF memo No. 75-14, 3 Mar. 1942, in AC/AS Personnel, Plans Division File, Project no. 14; AAF memo 42-38, 22 April 1942; AAF Reg. No. 15-127, 28 Apr. 1942.
 42. See, for example, ltr., Maj. Leland Herrington to the AFMSC, 28 Apr. 1942, in AFSSC.

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43. That part of AAF Memo 42-38, 22 Apr. 1942, providing that personnel might be shipped by the TTC to RCD's was never implemented; a supplementary informal letter from Personnel to the TTC instructed the latter to ship replacements direct to the units. (Conversation with M. B. MacCatherine, 1 Feb. 1945). AAF Reg. No. 15-127, revised on 28 April 1942, mentioned the Depots only as statistical reporting organizations. On 7 May 1942 the Director of AFMSC indicated to the CO of the 7th SCU that Hq. AAF was not at all interested in having the RCD perform any other function than the statistical one. (Ltr., Capt. C. B. Thornton to Maj. L. A. Herrington, 7 May 1942, in AFSSC).
44. AG 320.2 (6-16-42) OB-I-AFRPG-M, 16 June 1942.
45. AAF Reg. No. 20-11, 2 July 1942.
46. Hist. 2d AF, 7 Dec. 1941-31 Dec. 1942, Vol. II, pp. 380-90, in AFSHO.
47. Hist. WFTC, Installment III, Vol. V, pp. 1265, 1271, in AFSHO.
48. *Ibid.*, p. 1270.
49. Hist. 7th SCU, 1943, pp. 4-5, in Hq.
50. *Ibid.*, 1 Jan-30 June 1944, p. 1.
51. AAF Reg. No. 80-2, 14 April 1942.
52. AAF ltr. 80-5, 6 Jan. 1944.
53. AAF Reg. No. 20-11, 25 Mar. 1944.
54. R&R, AFMSC to AFIHI, 18 Apr. 1945, in AFSHO.
55. Conversation with Col. D. M. Barringer, 29 Jan. 1945.
56. Memo for Col. B. E. Gates from Capt. C. B. Thornton, 17 April 1942, in AFSHO.
57. AAF Reg. No. 80-1, 15 Aug. 1942. The reports described in paragraph (2) were "all recurring and special reports of a statistical nature for the Commanding General, AAF, or for the Chief of Staff."
58. AAF Reg. No. 80-1, 7 Sept. 1942.
59. AAF Reg. No. 20-11, 25 Mar. 1944.
60. Early in 1943 this responsibility was given to the 15th SCU at Hq. ASC.
61. Unsigned typescript entitled "Meeting with Materiel Command on Unreported Planes," dated 12 Oct. [1942], in AFSSC; R&Rs, AFMSC to MC, 25 Nov. 1942, 5 Dec. 1942, 5 Jan. 1942 [1943], in AFSSC; ltr., Maj. D. M. Barringer to Col. James A. Taylor, 4 March 1943, in AFSSC.
62. Unsigned typescript, "Meeting with Materiel Command on Unreported Planes," dated 12 Oct. [1942], in AFSSC; unsigned typescript, "Recommendations for Coordinating and Improving Certain Materiel Division Methods and Reports," n. d. [early 1943?], in AFSSC; conversation with Lt. Col. F. Q. Brown, 31 January 1945.
63. 1st ind., (ltr., Col. R. O. Brownfield to CG MC, 26 Dec. 1942) Hq MC to AFMSC, 2 Jan. 1943; 2d ind., AFMSC to Hq MC, 19 Jan. 1943, in AFSSC; ltr., Lt. Col. H. Y. Smith to AC/AS Personnel, 29 Sept. 1943, and attached R&Rs, AFPMP to AFMSC, 4 Oct. 1943, and AFMSC to AFPMP, 6 Oct. 1943, in AFSSC.
64. Memo for Lt. Col. C. B. Thornton from Col. George A. Brownell, 1 Sept. 1943, in AFSSC; memo for Col. Brownell from Lt. Col. Thornton, 3 Sept. 1943, in AFSSC.
65. Ltr., Brig. Gen. B. E. Gates to Maj. Gen. B. E. Meyers, 26 Aug. 1944, in AFSSC.
66. Conversation with Foster Adams, Joseph Senturia, and Maj. R. V. Bibbero, 3 Apr. 1945.
67. Conversation with Joseph Senturia, 3 Apr. 1945.
68. Ltr., Maj. Gen. W. H. Frank to Brig. Gen. B. E. Gates, 31 Aug. 1943, in AAG 322; R&R, AFMSC to AFIHI, 1 Oct. and 9 Oct. 1943, in AFSHO; interview with Pearson Hunt, 19 Apr. 1944, inclosure 6 to AAF Stat. School Organization Hist., 7 July 1943-29 Feb. 1944; conversation with Foster Adams, Joseph Senturia, and Maj. R. V. Bibbero, 3 Apr. 1945; MacCatherine p. 123.

69. R&R, AFMSC to AFIHI, 7 Dec. 1943, in AFSHO; cf ltr, Brig. Gen. B. E. Gates to CG ASC, 9 Feb. 1944, in AFSSC.
70. M&S, Control Office DAR, 30 Sept. 1944, in AFSHO; R&R, AFMSC to AFIHI, 9 Dec. 1944, in AFSHO; conversation with Maj. R. V. Bibbero and Joseph Senturia, 3 Apr. 1945.
71. Organizational planning memo [late spring or early summer 1944] relative to the proposed consolidation of the ASC and the MC, in AFMOP.
72. Conversation with Lt. Col. William H. Hadley, AFMOP, 23 March 1945; memo for CG, AAF from Brig. Gen. B. E. Gates, 30 May 1944, in AFMOP.
73. AAF Reg. No. 20-11, 25 March 1944.
74. MM&D, Control Office DAR, 3 June 1944, in AFSHO.
75. According to AG 322 (14 July 44) OB-I-AFRPG-M, 14 July 1944, Hq. AAF Materiel and Services was organized in the vicinity of Dayton, Ohio to have command jurisdiction over the MC and ASC. By Hq. AAF GO No. 10, 17 July 1944, Lt. Gen. Knudsen was named Director of Materiel and Services and Maj. Gen. Meyers Deputy Director, while MM&D was redesignated AC/AS, Materiel and Services, still under Maj. Gen. Echols. The complete consolidation of the Materiel and Air Service commands was directed by AG 323.3 (30 Aug. 44) OB-I-AFRPG-M, 31 Aug. 1944.
76. 1st ind. [basic not found], CO SCO, ASC, to Chief, AFMSC, 17 Aug. 1944, in AFSSC; R&R, AFMSC to AFIHI, 9 Dec. 1944, in AFSHO. Charges for the mechanical equipment of the former Materiel Command were transferred to Statistical Control's Budget as of 1 Oct. 1944 (ltr., Col. C. B. Thornton to Director, ATSC, 21 Nov. 1944, in AFSSC).
77. Chart, Organization of Comptroller, MC, 1 July 1944, in AFSHO; MC, FO Memo 20-6, 22 June 1944; conversation with Foster Adams, 10 Nov. 1944; conversation with Foster Adams, Joseph Senturia, and Maj. R. V. Bibbero, 3 Apr. 1945.
78. R&R, AFMSC to AFIHI, 9 Dec. 1944, in AFSHO.
79. M&S, Control Office DAR, 30 Sept. 1944, in AFSHO.
80. Memo for Col. C. B. Thornton from Col. Brandon Barringer, 5 Nov. 1944, in AFSSC; R&R, AFMSC to AFIHI, 9 Dec. 1944, in AFSHO.
81. Conversation with Foster Adams, Joseph Senturia, and Maj. R. V. Bibbero, 3 Apr. 1945.
82. Memo for Col. B. E. Gates by Lt. Col. Brandon Barringer, 1 Apr. 1943, in AAG 322.
83. R&R, AFMSC to FC and subsequent comments, 21 Apr.-19 May 1942, in AFSSC; AAF Memo 40-38, 22 Apr. 1942; AAF Reg. No. 15-127, 15 Sept. 1942.
84. AAF Memos 15-5, 23 Jan. 1943, 80-4, 3 Aug. 1943, 80-4, 24 Apr. 1944; AAF Letter 80-34, 1 Dec. 1944.
85. Conversation with Lt. Col. George W. Waters, 16 May 1945.
86. Rpt. of conference on MRU's, 7 May 1942, in AFSSC; 1st ind. [basic not found], AFMSC to AG, Machine Records Div., 20 May 1942, in AFSSC.
87. R&R, AFMSC to AFDOP, 6 July 1942, in AFSSC; ltr., AFDOP to AG, 20 July 1942, in AAG 310, 311; ltr., Maj. C. B. Thornton to TAG, Machine Records Div., 28 July 1942, in AFSSC; memo for AFMSC from Col. O. N. Thompson, 21 Aug. 1942, in AFSSC.
88. Memos for CG's of AF's and tng. centers from Col. B. E. Gates, 12 Dec. 1942, in AAG 310; AG 320.2 (12-29-42)PM, 29 Dec. 1942.
89. See sources in n. 88.
90. Ltr., Lt. Col. J. V. Brown to Maj. C. B. Thornton, 4 August 1942, in AFSSC.
91. Memo for IG from Col. Bernice M. McFadyen, 22 Oct. 1944, in AFSSC.
92. Ltr., Lt. Col. R. E. S. Deichler to Lt. Col. C. B. Thornton, 30 Oct. 1942, in AFSSC; ltr., Lt. Col. Thornton to Lt. Col. Deichler, 5 Nov. 1942, in AFSSC.

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93. Memo for CG 2d AF from Col. B. E. Gates, 12 Dec. 1942, in AAG 310.
94. AG 320.2 (12-29-42)PM, 29 Dec. 1942. The MRU's affected by this directive were the 71st through the 80th.
95. Col. B. E. Gates to CG TTC, 6 Jan. 1943, in AFSSC.
96. R&R, Col. B. E. Gates to CO 16th SCU, 27 May 1943, in AFSSC; AAF Reg. No. 15-127, 1 July 1943. R&R, AFMSC to AFPMP, 12 Mar. 1943, in AAG 310.1; AAF SO, #84, 7 Apr. 1943; memo for TAG by Col. Brandon Barringer, 28 Mar. 1943, in AFSSC, memo for TAG by AAG, 28 June 1943, in AAG 322; Hq. WCTC to AFMSC, 30 Dec. 1942, in AAG 322; CO 4th SCU to AFMSC, 6 Jan. 1943, in AAG 322. For a more technical discussion of these changes in personnel reporting see [Ch. VI below.]
97. WD Memo No. W345-2-43, 21 Jan. 1943.
98. Conversation with Lt. Col. G. W. Waters, 18 May 1945.
99. Lt. Col. C. B. Thornton to CO 16th SCU, 20 Aug. 1943, in AAG 310.
100. Memo for DC/S from Brig. Gen. B. E. Gates, 19 Aug. 1943, in AFSSC.
- Ray E. Porter, WDGS from Brig. Gen. B. E. Gates, 16 May 1944, in AFSSC; MacCatherine, pp. 201-02; R&R, AFMSC to Requirements Div., OC&R, 14 Oct. 1944, in AFSSC; R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO.
5. Conversation with Lt. Col. A. D. Theobald, 10 May 1945.
6. Cable received from GHQ SWPA, 23 May 1942, in AFSSC.
7. List of requests received for statistical officers, 14 Aug. 1942, in AFSSC.
8. Ltr., Col. B. E. Gates to Brig. Gen. C. L. Bissell, 18 Nov. 1942, in AFSSC.
9. Ltr., Col. L. B. Hickam, Actg. C/S, 8th AFSC to Col. Ronald Hicks, Liaison Officer, 8th AFSC, 5 Dec. 1942, in AFSSC.
10. Ltr., Col. B. E. Gates to Brig. Gen. C. L. Bissell, 18 Nov. 1942, in AFSSC.
11. *Ibid.*, ltr., Col. B. E. Gates to Brig. Gen. Ira C. Baker, 22 Dec. 1942, in AFSSC.
12. If the denomination SCU had always been indicative of function, it would be necessary to say that the first SCU's operating outside the limits of the continental United States were the 9th, with the 7th AF, and the 10th, with the 6th AF. These units had been established in February 1942 as Replacement Control Depots and redesignated in the following June as SCU's. Despite the redesignation, however, they were still operating as Replacement Control Depots at the time the 20th SCU was established.

CHAPTER 4

1. R&R, AFMSC to OC&R, Allocations and Programs Div., Theaters Br., 8 May 1943, in AFSSC; Lt. Col. H. L. Suttle to AFMSC, 28 Feb. 1944, in AAG 319.1.
2. Inclosure No. 1 to AAF Memo 155-2, Hq. AAF, India-Burma Sector, CBI Theater, 20 Apr. 1944, attached to Hist. 22d SCU, Apr. 1944, in AFSHO.
3. Ltr., Lt. Col. C. B. Thornton to CO ORTC, 15 July 1943, in AAG 353; same to same, 15 Sept. 1943, in AAG 310; same to same, 9 Dec. 1943, in AAG 319.1.
4. R&R, AFDMC to AC/AS, OC&R and subsequent comments, 26 Sept.-16 Oct. 1943, in AFSSC; memo for DC/S, G-3 from Col. B. E. Gates, 14 Dec. 1943, in AFSSC; memo for AC/S G-3 from Actg. C/AS, 9 Apr. 1944, in AFSSC; memo for Maj. Gen. Ray E. Porter, WDGS from Brig. Gen. B. E. Gates, 16 May 1944, in AFSSC; MacCatherine, pp. 201-02; R&R, AFMSC to Requirements Div., OC&R, 14 Oct. 1944, in AFSSC; R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO.
5. Conversation with Lt. Col. A. D. Theobald, 10 May 1945.
6. Cable received from GHQ SWPA, 23 May 1942, in AFSSC.
7. List of requests received for statistical officers, 14 Aug. 1942, in AFSSC.
8. Ltr., Col. B. E. Gates to Brig. Gen. C. L. Bissell, 18 Nov. 1942, in AFSSC.
9. Ltr., Col. L. B. Hickam, Actg. C/S, 8th AFSC to Col. Ronald Hicks, Liaison Officer, 8th AFSC, 5 Dec. 1942, in AFSSC.
10. Ltr., Col. B. E. Gates to Brig. Gen. C. L. Bissell, 18 Nov. 1942, in AFSSC.
11. *Ibid.*, ltr., Col. B. E. Gates to Brig. Gen. Ira C. Baker, 22 Dec. 1942, in AFSSC.
12. If the denomination SCU had always been indicative of function, it would be necessary to say that the first SCU's operating outside the limits of the continental United States were the 9th, with the 7th AF, and the 10th, with the 6th AF. These units had been established in February 1942 as Replacement Control Depots and redesignated in the following June as SCU's. Despite the redesignation, however, they were still operating as Replacement Control Depots at the time the 20th SCU was established.
13. Ltr., Lt. Col. C. B. Thornton to CO 20th SCU, 22 Dec. 1942, in AAG 322; R&R, AFMSC to C/AS, 27 Jan. 1943, in AFSSC; ltr., Lt. Col. Thornton to Maj. H. L. Suttle, 7 March 1943, in AFSSC; ltr., Capt. H. L. Porterfield to Maj. Suttle, 8 Mar. 1943, in AFSSC; R&R, AFMSC to AFPMP thru A-1, 8 Mar. 1943, in AFSSC.
14. 1st ind., (ltr., Col. L. B. Hickam to Col. Ronald Hicks, 5 Dec. 1942), Lt. Col. Thornton to AFDOP, 14 Jan. 1943, in AFSSC.

15. Ltr., Col. B. E. Gates to Brig. Gen. Ira C. Eaker, 22 Dec. 1942, in AFSSC.
16. MacCatherine, p. 111; ltr., Col. B. E. Gates to Maj. Gen. Ira C. Eaker, 11 Mar. 1943, in AAG 322.
17. Memo for Maj. Gen. George E. Stratemyer from Col. W. T. Sexton, Asst. Sec., WDGS, 15 Feb. 1943, in AFSSC; memo for Col. Sexton from C/AS, 25 Feb. 1943, in AFSSC.
18. MacCatherine, pp. 111-12.
19. *Ibid.*, pp. 112-13.
20. Colonel Barringer has stated that Air Marshal Tedder gave him very strong backing. (Conversation with Col. D. M. Barringer, 29 Jan. 1945).
21. Ltr., Maj. Gen. Walter H. Frank to MM&D, 1 April 1944, in AFSSC; R&Rs, MM&D to AFPMP thru AFMSC, 15 Apr. 1944, and AFMSC to AFPMP, 20 Apr. 1944, with draft of letter to CG AAF India-Burma Sector, 14 April 1944, in AFSSC; R&R, AFMSC to AFIHI, 9 Dec. 1944, in AFSHO; MacCatherine, pp. 193-96.
22. R&R, AFMSC to AFIHI, 27 Mar. 1945, in AFSHO.
23. R&R, AC/AS, Program Planning to AFMSC, 20 Nov. 1942, in AFSSC.
24. Conversation with Lt. Col. G. W. Waters, 16 May 1945.
25. 1st ind. (ltr., Hq. 8th AF to AFMSC, 30 Apr. 1943), Col. B. E. Gates to TAG, Machine Records Branch, 20 May 1943, in AFSSC.
26. MacCatherine, p. 129.
27. Ltr., Lt. Col. E. G. Hamel to Col. C. B. Thornton, 18 Nov. 1943, in AAG 322.
28. MacCatherine, p. 188.
29. AR 345-5, 5 Aug. 1944, IV, 26.
30. Hist. 28th SCU, Dec. 1944, in AFSHO.
31. MacCatherine, pp. 128-29.
32. R&R, AFMSC to AFDMC, 3 Jan. 1944, in AFSSC; memo for the DC/S from Brig. Gen. B. E. Gates, 10 Jan. 1944, in AFSSC; R&R, AFMSC to OC&R, Commitments Div., 13 June 1944, in AFSSC.
33. R&R, AFMSC to AFPMP, 7 Feb. 1944, in AFSSC; R&R, AFDMC to OC&R, Requirements Div., 7 June 1944, in AFSSC.
34. R&R, AFMSC to AFIHI, 27 Mar. 1945, in AFSHO.
35. Memo for DC/S from AFDMC, 1 Mar. 1945, in AFSSC.
36. Memo for CG ASF and CG AFF from OPD, 6 April 1945 in AFSSC; AG 322 (24 Apr. 1945) OB-I-AFRPG-M, 9 May 1945.
37. R&R, AFMSC to AFIHI, 13 Mar. 1945, in AFSHO; MacCatherine, pp. 187-93.
38. MacCatherine, p. 189.
39. R&R, AFMSC to AFPMP, 7 Feb. 1944, in AAG 322.
40. Memo for OPD from Col. C. B. Thornton, 5 May 1944, in AFSSC.
41. Conversation with Lt. Col. George W. Waters, 16 May 1945.
42. R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO. Plans were under way toward the end of 1945 to bring about consolidation in the Carribean area.
43. AGOM-E-F 320.2 (16 May 1945) 25 May 1945; memo for AC/S, Opns. Div., n. d., in AG 320.2 (16 May 1945).
44. AAF Memo 155-2, 20 Apr. 1944, Hq. AAF, India-Burma Sector, CBI Theater.
45. AAF Reg. No. 80-2, 31 July 1944; Hist. 28th SCU, Aug.-Sept. 1944, in AFSHO.
46. TAI, Control Div., Daily Diary, 2 Nov. 1944, in AFSHO.
47. AAF Reg. No. 80-2, 1 Jan. 1945.
48. Organization Chart of the Stat. System, MTO, as of 7 March 1945, in AFSSC; conversation with Lt. Col. A. D. Theobald, 10 Apr. 1945, Hist. 28th SCU, Aug. and Nov. 1944, and Hist. 23d SCU, in AFSHO.

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49. Colonel Thornton's first trip to this theater was made, it will be remembered, in connection with the establishment of Statistical Control there in the spring of 1943.
50. MacCatherine, pp. 196-97.
51. *Ibid.*, pp. 193-94; Current Addendum (May 1944) to Hist. 26th SCU and Initial History for Detachment "B," 32d SCU, in AFSHO.
52. Hist. Rcd., 25th SCU (Overseas), 1 Oct. 1943; Hist. Rcd., 34th SCU, 18 Oct.-31 Dec. 1944; and R&R, AFMSC to AFIHI, 6 and 20 Oct. 1944, in AFSHO; MacCatherine, pp. 190-91, 195; conversation with Lt. Col. Theobald, 10 Apr. 1945.
53. R&R, AFMSC to AFIHI, 29 Sept. 1944, in AFSHO; MacCatherine, pp. 189-90, 195, 202; conversation with Lt. Col. A. D. Theobald, 10 Apr. 1945.
54. R&R, AFMSC to AFIHI, 24 Sept. and 15 Oct. 1943, and 10 Nov. 1944, in AFSHO; Ltr., Lt. Col. C. B. Thornton to Capt. John M. Creman, 12 Mar. 1943, in AAG 322; Hist. 22d SCU, Apr. 1944, in AFSHO; conversation with Lt. Col. A. D. Theobald, 10 Apr. 1945; MacCatherine, pp. 110, 196, and 202.
55. This was the only Statistical Control organization in any way connected with the 6th AF after the redesignation of the 10th SCU as a replacement Control Depot in Nov. 1943.
56. R&R, AFMSC to OC&R, Advisor for Program Control, 13 Mar. 1944, in AFSSC; conversation with Lt. Col. A. D. Theobald, 10 Apr. 1945.
57. Ltr., Hq. 6th AF to AFMSC, 25 Oct. 1943, in AFSSC; table entitled "Additional Requirements for Statistical Control Units," attached to R&R, AFMSC to OC&R, Programs Br., 30 Aug. 1943, in AFSSC; R&R, AFMSC to AFIHI, 19 Nov. 1943, in AFSHO.
58. 1st ind., (ltr., Col. B. E. Gates to CG 7th AF, 8 Mar. 1943) to AFMSC, 5 Apr. 1943, in AAG 322.
59. 2d ind., Col. B. E. Gates to CG 7th AF, 17 May 1943, in AAG 322; Hist. 9th SCU, 8 Apr. 1942-21 Mar. 1944, in AFSHO.
60. Conversation with Lt. Col. A. D. Theobald, 10 Apr. 1945.
61. R&Rs, OC&R, Commitments Div. to AFMSC, 5 June 1944; AFMSC to OC&R, Commitments Div., 13 June 1944, in AFSSC; R&R, AFMSC to AFIHI, 4 Dec. 1944, in AFSHO.
62. R&R, AFMSC to Theaters Br., OC&R, 17 Sept. 1944, in AFSSC.
63. Strength information in files of M. B. MacCatherine.

CHAPTER 5

1. Ltr., Wallace B. Donham to Maj. Gen. Walter R. Weaver, 23 Apr. 1942, in AFSSC; conversation with Edmund P. Learned, 19 May 1945.
2. 1st ind. (memo for CG TTC from AFKIT, 30 Mar. 1942) Hq. TTC to CG AAF, 18 Apr. 1942 in AFSSC.
3. Ltr., AFKIT to CG TTC, 16 Apr. 1942, in AFSSC; ltr., Wallace B. Donham to Maj. Gen. Walter R. Weaver, 23 Apr. 1942, in AFSSC; memo for CG TTC from AFKIT, 25 Apr. 1942, in AAG 000.800. A variant copy if the last-named document, more tentative in tone and containing no reference to "previous commitments" as the copy cited does, is to be found in AFSSC; this AFSSC copy is apparently a preliminary draft.
4. Memo for AFKIT from Lt. Col. C. B. Thornton, 24 Mar. 1942, in AFSSC; memo for CG TTC from AFKIT, 30 Mar. 1942, in AFSSC and AAG 352.01 D.
5. R&R, AFKIT to MC and subsequent comments, 7-20 May 1942, in AAG 000.800; copy of Contract W 535 ac-29291, approved 25 May 1942, in AFSSC.
6. 1st ind., (memo for CG TTC from AFKIT, 30 Mar. 1942, in AAG 352.01 D, Establishment of Schools) Hq. TTC to CG AAF, 18 Apr 1942, in AFSSC; ltr., AFKIT to CG TTC, 16 Apr. 1942, in AFSSC; memo for CG TTC from AFKIT, 25 Apr. 1942, in AAG 000.800.

7. Memo for CG TTC from AFRIT, 25 Apr. 1942, in AAG 000.800; ltr., Hq. TTC to AFRIT and subsequent indorsements, 25 May-4 June 1942, in AAG 000.800.
8. R&R, AFMSC to AFRIT, 13 June 1942, in AAG 352.01D; Maj. C. B. Thornton to Commandant, AAF Stat. School, 16 June 1942, in AAG 000.800.
9. Memo for CG TTC from AFRIT, 25 Apr. 1942, in AAG 000.800.
10. R&R, AFRIT to CG TTC and subsequent comments, 3 June-10 July 1942; ltr., AFRIT to CG TTC, 16 June 1942 and 30 July 1942; ltr., Maj. C. B. Thornton to 2d SCU, 24 June 1942, and similar letters to other SCU's, all in AAG 000.800.
11. This requirement, which was applied from the first, was written into the official directive on statistical officers (AAF Reg. No. 20-2, as revised under date of 25 Mar. 1943).
12. Interviews with John D. Glover, Asst. Prof. of Business Administration, 3 Apr. 1944, Incl. 23, and with Harry Hansen, Actg. Civilian Educational Director, AAF Stat. School, 17 Apr. 1944, Incl. 4, in AAF Stat. School Organization Hist.
13. R&Rs, AFROM to AFRIT, 11 May 1942, and AFRIT to AFROM, 15 May [1942], in AFSSC; memo for AC/S, G-1 and G-3, 11 June 1943, unsigned, in AFSSC.
14. Ltr., Maj. C. B. Thornton to CO 2d SCU, 24 June 1942, in AAG 000.800, and letters in the same file to CO's of other SCU's.
15. AG 352 (8-5-42)MT-AFPMP-PS-Mm, 12 Aug. 1942.
16. Ltr., Col. B. E. Gates to Commandant, AFOCS, Miami Beach, 6 Oct. 1942, and attached circular, in AAG 000.800.
17. Ltr., Lt. Col. R. E. S. Deichler, 18th SCU, to AFMSC, 12 Apr. 1943, in AAG 211.
18. Ltr., Lt. Col. R. E. S. Deichler to AFMSC, 28 Apr. 1943, in AFSSC, "The Statistical Officer and the Statistical Control System," copy furnished by AFSSC.
19. Memo for Commandant, AFOCS, Miami Beach from Lt. Col. C. B. Thornton, 22 June 1943, in AAG 352.11; memo for AFMSC from Capt. H. A. Carver, Hq. AFOCS, 28 June 1943, in AAG 352.11.
20. Ltr., Hq. ETTC to CG AFTRC, 26 Aug. 1943, in AFSSC.
21. Ltr., Lt. Col. C. B. Thornton to Capt. Marvin C. Rall, II, CO 19th SCU, 9 Dec. 1943, in AFSSC; similar letters in the same file to CO's of other SCU's.
22. Ltr., Maj. E. K. Dunn to Maj. F. C. Reith, 15th SCU, 19 Feb. 1944, in AFSSC.
23. Memo for CG TTC from Col. L. S. Smith, 25 Apr. 1942, in AAG 000.800.
24. R&R, AFMSC to AC/AS, OC&R, Allocations and Programs Div. and AC/AS Training, Technical Training Div., 19 Apr. 1943, in AFSSC. OC&R, Allocations and Programs Div. Trained Statistical officer requirement stood, for some time, at approximately 3,300 in the Troop Basis.
25. Incl. 1, AAF Stat. School Organization Hist., 1 Jan.-7 July 1943.
26. AAF Stat. School Organization Hist., 7 July 1943-29 Feb. 1944, p. 17. *Ibid.*, 1 Mar.-30 Apr. 1944, p. 2. A copy of the contract, No. W30-053 ac-1060 (157), is appended to this volume incl. 4.
27. R&R, AFMSC to AFPMP and subsequent comments, 28 Feb.-13 Mar. 1944, in AFSSC.
28. R&R, AFMSC to AFPMP, 27 Mar. 1944, in AFSSC.
29. Conversation with Col. D. M. Barringer, CO SCO, Hq. 2d AF, 29 Jan. 1945.
30. Ltr. Lt. M. E. Bergesen to Edmund P. Learned, 18 Feb. 1943, in AFSSC; R&R, AFMSC to AFPMP, 10 Mar. 1943, in AFSSC.
31. 2d ind. (ltr., Capt. C. E. Landreth to CO, 15th SCU, 15 Sept. 1943), Lt. Col. C. B. Thornton to CO 15th SCU, 23 Sept. 1943, in AFSSC; R&R, AFMSC to AC/AS, MM&D, 17 Nov. 1943, in AFSSC.
32. R&R, AFMSC to AC/AS, Personnel, 14 Apr. 1944, in AFSSC; R&R, AFMSC to AC/AS,

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- Personnel, AC/AS, Training, AC/AS, MM&D, Budget and Fiscal Office, and Management Control, Manpower Div., 14 June 1944, in AFSSC; R&R, AFMSC to AFPMP, 12 July 1944, in AFSSC; Procurement Div. MM&D, to CG MC, 7 June 1944, in AFSSC; R&R, AFMSC to AC/AS, Training, 26 Sept. 1944, in AFSSC; ltr., Col. C. B. Thornton to Lt. Col. Gaylord Johnson, 11 Nov. 1944, in AFSSC; R&Rs, AFMSC to AFHFI, 20 Nov. 1944, and 16 Jan. 1945, in AFSHO.
33. R&R, AFMSC to AC/AS, Training, 17 Apr. 1943, in AFSSC; R&R, AFMSC to AFPMP, 11 Oct. 1943, in AFSSC.
34. Ltr., Lt. Col. John F. Heflin to AFMSC, 15 Jan. 1944, in AFSSC.
35. Ltr., Lt. Col. Brandon Barringer to CG IV FC, 31 Jan. 1944, and R&R, AFMSC to AC/AS Training, Individual Training Div. 7 Nov. 1944, in AFSSC.
36. Ltr., Lt. Col. John F. Heflin to AFMSC, 15 Jan. 1944, in AFSSC; memo for AC/AS, Training from Capt. Alice E. McNiff, attached to Daily Diary of Physical Training and Special Projects Branch, Individual Training Div., 9 Nov. 1944, in AFSHO.
37. AAF Stat. School Organization History, 1 Mar.-30 Apr. 1944, p. 10.
38. Interview with Lt. Col. John F. Heflin, 10 Dec. 1943, Incl. 1, AAF Stat School Organization History to 31 Dec. 1942; R&R, AFSSC to AFSHO, 16 Oct. 1945, in AFSHO. Steps were being taken to establish a similar course for officers at the AAF Center, beginning sometime in November 1945.
39. Conversation with Edmund P. Learned, 19 May 1945.
40. Interview with Donald Clark, n. d., Incl. AAF Stat. School Organization History, 7 July 1943-29 February 1944.
41. Ltrs., Capt. C. B. Thornton to TAG, 15 May 1942, in AFSSC; to CO's at Wright Field, Biloxi, and Maxwell Field, 21 May 1942, in AFSSC; memo for Lt. Gen. H. H. Arnold from Col. B. E. Gates, 24 July 1942, in AAG 210.31.
42. Interviews with Dan. T. Smith, n. d., Incl. 21, and with John D. Glover, 3 Apr. 1944, Incl. 23, AAF Stat. School Organization Hist., 1 Jan.-7 July 1943; interviews with Harry Hansen, 17 Apr. 1944, Incl. 4, and with James Hart, 18 Apr. 1944, Incl. 5, 7 July 1943-29 Feb. 1944; interview with Lt. Col. John F. Heflin, 6 Sept. 1944, Incl. 1, *ibid.*, 1 July-31 Aug. 1944.
43. Interview with Lt. Col. John F. Heflin, 6 Sept. 1944, Incl. 1, 1 July-31 Aug. 1944.
44. Interview with Harry Hansen, 17 April 1944, Incl. 4, *ibid.*, 7 July 1943-29 Feb. 1944.
45. Ltrs., Lt. Lyman L. Woodman to Maj. C. B. Thornton, 4 June 1942, and Maj. Thornton to Lt. Woodman, 8 June 1942, in AFSSC.
46. Interview with John D. Glover, 3 April 1944, Incl. 23, AAF Stat. School Organization Hist., 1 Jan.-7 July 1943.
47. Interview with Pearson Hunt, 19 Apr. 1944, Incl. 6, *ibid.*, 7 July 1943-29 Feb. 1944.
48. Interview with Dan. T. Smith, n. d., Incl. D2, *ibid.*, 1 Sept.-31 Oct. 1944.
49. Interview with John D. Glover, 3 Apr. 1944, Incl. 23, *ibid.*, 1 Jan.-7 July 1943; interviews with Harry Hansen, 17 Apr. 1944, and with Donald Clark, 18 Apr. 1944, Incls. 4 and 8, *ibid.*, 7 July 1943-29 Feb. 1944.
50. Interview with Harry Hansen, 17 April 1944, Incl. 4, *ibid.*, 7 July 1943-29 Feb. 1944.
51. Interview with John D. Glover, 3 Apr. 1944, Incl. 23, *ibid.*, 1 Jan.-7 July 1943.
52. *Ibid.*, Interview with Dan. T. Smith, n. d., Incl. D2, *ibid.*, 1 Sept.-31 Oct. 1944.
53. *Ibid.*
54. Interview with Maj. Jackson W. Lord, 22 Sept. 1944, Incl. 6, *ibid.*, 1 July-31 Aug. 1944.

55. Interview with Dan. T. Smith, 22 Sept. 1944, Incl. 5, and interview with Maj. Jackson W. Lord, 22 Sept. 1944, Incl. 6, *ibid.*, 1 July-31 Aug. 1944.
56. Interview with Dan T. Smith, n. d., Incl. D2, *ibid.*, 1 Sept.-31 Oct. 1944.
57. R&R, AC/AS, A-3 to AFRIT, 12 Mar. 1942, in AAG 352.01 D.
58. Ltr., Lt. Col. Corbett Carmichael to AFDMC, 5 Dec. 1942, in AFSSC.
59. 1st ind. (ltr., Col. B. E. Gates to CG STC, 3 Feb. 1943), STC to CG AAF, 11 Feb. 1943, in AAG 300.8; AAF Regs. 20-30.
60. 1st ind. (ltr., Col. B. E. Gates to CG 3d AF, 2 Feb. 1943) Hq. 3d AF to CG AAF, 17 Feb. 1943, in AAG 300.8.
61. AAF Reg. No. 20-2, 25 Mar. 1943.
62. R&R, AFMSC to AC/AS, OC&R, Allocations and Programs Div., and AC/AS, Training, Technical Training Div., 19 April 1943, in AFSSC.
63. R&R, AFMSC to AFPMP, 8 June 1943, in AFSSC.
64. Memo for all Div. Chiefs from Lt. Col. C. B. Thornton, 16 Nov. 1942, inclosing memo for all members of the 4th SCU from Maj. Jesse L. Waite, 20 Oct. 1942, in AFSSC; R&R, AFMSC to CO 16th SCU, 21 Nov. 1942, in AFSSC; R&R, CO 16th SCU, to AFMSC, 23 Nov. 1943, in AAG 353; ltr., Lt. Col. Corbett Carmichael to AFDMC, 5 Dec. 1942, in AFSSC.
65. Ltrs., Lt. Col. C. B. Thornton to CO, ORTC, 15 July 1943, in AAG 353; 15 Sept. 1943, in AAG 310; 9 Dec. 1943, in AAG 310; 9 Dec. 1943, in AAG 319.1.
66. Memo for CG AAF from Commandant, AAFSAT, 29 May 1943, in AAG 320.4.
67. 1st ind. (ltr., Lt. Col. R. E. S. Deichler, 5th SCU to AFMSC, 30 Oct. 1942), AFDMC to CO 5th SCU, 8 Nov. 1942, in AAG 310.
68. R&R, AFMSC to AFPMP, 12 Mar. 1943, in AAG 310.1; AAF SO 84, 7 Apr. 1943, in AAG 310.1.
69. R&R, AFMSC to AFPMP, 15 Jan. 1943, in AFSSC.
70. Ltr., Lt. Col. Brandon Barringer to CG 1st AF, 20 Mar. 1943, in AFSSC; similar letters in same file addressed to CG's at other headquarters where MRU's were located.
71. R&R, AFMSC to AFIHI, 27 Feb. 1945, in AFSHO.
72. R&R, Lt. Col. C. B. Thornton to CO 16th SCU, 28 Dec. 1942, in AAG 322; ltr., Lt. Col. C. Carmichael, CO 6th SCU to CG STC, 29 Dec. 1942, and subsequent indorsements, 2 Jan.-20 Feb. 1943, in AFSSC.
73. Ltr., Col. B. E. Gates to CG 2d AF, 12 Feb. 1943, in AFSSC; similar letters in the same file to other commands.
74. R&R, AFMSC to AC/AS, Training, 16 Dec. 1943, in AFSSC; AC/AS, Training, to CG AFTRC, 8 Nov. 1943, in AAG 353. Machine trained enlisted personnel were also obtained from Army induction centers as a result of arrangements made with TAG (R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO).
75. R&R, AFMSC to AC/AS, Program Planning, 4 Sept. 1942, in AFSSC.
76. R&R, AFMSC to AFMOP, 8 Feb. 1943, in AFSSC.
77. R&R, AFMSC to AFPMP, 15 Feb. 1944, in AAG 353.
78. R&R, AFMSC to AFIHI, 23 Jan. 1945, in AFSHO.
79. R&R, AFMSC to AC/AS, Program Planning, 30 Nov. 1942, in AFSSC.
80. Memo for TAG, Machine Records Branch, from Lt. Col. C. B. Thornton, 11 Feb. 1943, in AFSSC. memo for TAG from Lt. Col. Thornton, 26 July 1943, in AFSSC; memo for TAG from Lt. Col. Thornton, 26 Oct. 1943, and subsequent indorsements, 3-12 Nov. 1943, in AFSSC.
81. R&R, Col. B. E. Gates to CG GCTC, 11 Feb. 1943, in AFSSC. R&R, AFMSC to AFRIT, 17 Mar. 1943, in AFSSC.

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82. Ltr., AC/AS, Training, to CG AFTRC, 8 Nov. 1943, in AAG 353.
 83. R&Rs, AFMSC to AC/AS Training, thru AFPMP, 28 Mar., 15 June, and 27 Oct. 1944.
 84. Ltr., Col. Clifford P. Bradley, AFPMP, to CO School of Business Administration, Harvard University, 9 July 1942, in AAG 000.800.
 85. *Ibid.*; AAF Stat. School Organization History to 31 Dec. 1942, p. 17.
 86. MacCatherine, p. 55.
 87. It should be noted that there was no prohibition against the promotion of statistical officers to a position of higher rank if the position was not as a statistical officer. Quite a number were thus promoted out of the System. (MacCatherine, p. 119; ltr. unsigned copy, n. d. (received 11 Dec. 1943), from 22d SCU to Lt. Col. C. B. Thornton, in AAG 210.31).
 88. Memo for AFDMC and AC/AS, Personnel from Lt. Col. C. B. Thornton, 16 June 1943, in AAG 211.
- CHAPTER 6
1. See AAF Letter 221, 11 Feb. 1942, for this definition of terms.
 2. In addition to the two editions of AAF Reg. No. 15-127 dated 23 Feb. and 28 Apr. 1942, the formal directives relating to the original Form 127 and the first revision were: AAF Letter 315, 10 Feb. 1942; AAF Letter 221, 11 Feb. 1942; and AAF Memo 42-38, 22 Apr. 1942. Other sources used for the above discussion of personnel reporting were: Schematic Diagram for Automatic Flow of Personnel to Units Showing One Station of the 1st AF, Hq. 3d AF, Memo 75-14, 3 Mar. 1942; memo (copy unsigned) for Lt. Col. A. W. Kissner, 24 Mar. 1942; tentative draft of amended directions for reporting under AAF personnel system, addressed to CG's of each air force *et al.*, n. d.; all in AC/AS Personnel, Plans Div.; conversations with M. B. MacCatherine, 1 Feb. 1945, and with Capt. W. C. MacMillen, 29 Jan. 1945; memo for M. B. MacCatherine from Lt. Col. B. F. Cummings, 8 Nov. 1944; and notes by M. B. MacCatherine, "Continental Reports;" in files of M. B. MacCatherine.
 3. Ltr., Edmund P. Learned to Maj. C. B. Thornton, 20 July 1942, in AFSSC; R&Rs, AFDOP to AFDMC, 7 May 1942, and AFMSC to AFDOB, 4 June 1942, in AFSSC.
 4. See, in addition to the regulations referred to in the text, R&R, AFDOP to AFDMR, 31 July 1942, in AC/AS Personnel, Plans Div., Project No. 14.
 5. Ltr., CO, Wright Field to AFDMC, 26 Sept. 1942, in AFSSC.
 6. AAF Reg. No. 15-127, 15 Sept. 1942; conversations with M. B. MacCatherine, 1 Feb. 1945 and with Capt. W. C. MacMillen, 29 Jan. 1945.
 7. Sources for the preceding account of the modifications made in the personnel reporting system in 1943 and 1944, aside from AAF Reg. No. 15-127, 1 July 1943 and 1 July 1944 are: AAF Reg. No. 15-126, 2 Aug. 1943; AAF Memo 35-30, 26 July 1943; memo for M. B. MacCatherine from Lt. Col. B. F. Cummings, 8 Nov. 1944 and notes by M. B. MacCatherine, "Continental Reports," in files of M. B. MacCatherine; Harry Hansen to Lt. Col. C. B. Thornton, 27 Jan. 1943, in AFSSC; ltr., Lt. Col. C. B. Thornton to Harry Hansen, 5 Feb. 1943, in AFSSC; R&R, Actg. Chief, AFMSC to all air forces and similar commands, 5 May 1943, in AAG 315; R&R, AFMSC to AC/AS, MM&D, 5 June 1943 and similar communications to other Headquarters offices, in AFSSC; R&R, AFMSC to AFTHI, 19 Oct. 1943, in AFSHO; conversation with Capt. W. C. MacMillen, 29 Jan. 1945.
 8. R&R, AFDMC to AC/AS, OC&R, 5 Aug. 1944, in AFSSC; conversation with Maj. W. C. MacMillen, 9 May 1945.
 9. R&R, AFDOP to AC/AS, A-1, 27 Nov. 1942, in AFSSC.
 10. R&R, AFMSC to AC/AS A-1, 12 Dec. 1942, in AFSSC; R&R, AFDOP to AFMSC thru AC/AS, A-1, and subsequent comments, 7-27 Mar. 1943, in AAF 319.1.

11. AAF Reg. No. 15-134, 1 July 1943 and 24 Nov. 1944.
12. Amended by AAF Letter (c) 15-6A, 7 July 1944. See also memo for M. B. MacCatherine from Lt. Col. B. F. Cummings, 8 Nov. 1944, in files of M. B. MacCatherine.
13. Modified by AAF Letters 15-3A, 29 July 1944; 15-3B, 27 Oct. 1944; 15-3C, 27 Nov. 1944.
14. In addition to the directives cited in the text, see memo for M. B. MacCatherine from Lt. Col. B. F. Cummings, 8 Nov. 1944, in files of M. B. MacCatherine.
15. AG 320.2 (8-31-42)HR, 8 Sept. 1942.
16. R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO.
17. AG 320.2 (23 Nov. 43)OB-I-AFMSC-M, 30 Nov. 1943.
18. AG 320.2 (19 Feb. 44)OB-I-AFMSC-M, 6 Mar. 1944.
19. AG 320.2 (30 Aug. 44)OB-I-AFMSC-M, 11 Sept. 1944.
20. R&R, AFMSC to AFIHI, 15 Oct. 1943, in AFSHO.
21. Conversation with Capt. W. C. MacMillen, 29 Jan. 1945.
22. Conversation with Capt. W. C. MacMillen, 29 Jan. 1945.
23. Notes, unsigned, on history of Theaters and Training Branch, in files of M. B. MacCatherine; R&R, AFMSC to AFIHI, 11 Feb. 1944, in AFSHO. This report "was not considered a statistical one" and was later transferred to A-1 (R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO).
24. Authorized by AAF Reg. No. 15-131, 22 May 1942.
25. AAF Reg. No. 15-131, 15 Oct. 1942.
26. AAF Reg. No. 15-127, 1 July 1943. Some training reports, not considered standard AAF reports, deserve mention here. Form 131, Report of Student and Recruit Personnel Status (AAF personnel only), was required by AAF Reg. No. 15-131 of 16 May 1942, but was discontinued on 6 Jan. 1943. This report was prepared weekly by all technical and flying training schools, replacement training centers, aircrew classification centers, and civilian schools having contracts with the government. The information was not detailed enough to be of great value. (See AFSSC, Central file, Form 131). In the fall of 1944 a very complete report (Forms 190 and 191) was begun by the Training Command. This was prepared weekly for students in technical training and recruits in basic training centers. This information was given under seven headings (for technical training) and broken down by school and by course. The detail and exactness made it extremely useful in preparing the PR-reports and in providing for sound planning by SSN. A comparable report for flying training was the TRC P-144 (See files on these reports and the reports themselves in Personnel Statistics Branch AFSSC).
27. Conversation with Maj. W. C. MacMillen, 9 May 1945.
28. R&R, AFMSC to AFIHI, 7 Dec. 1943, in AFSHO.
29. Conversation with Maj. James S. Whitaker, 30 Jan. 1945.
30. Manual for Training Stat., AAF Manual (c) 80-5, Dec. 1944, notes on the history of the Training and Operations Branch, files of M. B. MacCatherine; data furnished by Capt. Orrin Boop, in conversation 6 Mar. 1945.
31. AAF Reg. Nos. 15-132, 15 June 1942; 15-132A, 15 Aug. 1942, 15-132, 7 May 1943; 15-132A, 4 Aug. 1943; 15-132, 15 June 1944; memo for M. B. MacCatherine from Lt. Col. B. F. Cummings, 8 Nov. 1944.
32. Conversations with Col. Brandon Baringer, 16 Jan. 1945, and with Lt. Col. F. Q. Brown, 31 Jan. 1945; Survey of Stat. Control Div., Vol. I, Materiel Stat. The report from the air forces and Air Support Command was known as the "Fly, Fire, and Drop Bombs Report," and was inherited from AFCC by Statistical Control on 9 Mar. 1942.
33. AAF Reg. No. 15-110A, 9 Dec. 1942.

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34. Thornton report, p. 105.
35. AAF Reg. No. 15-110B, 25 Mar. 1943; conversation with Col. Brandon Barringer, 16 Jan. 1945.
36. AAF Reg. No. 15-110, 10 July 1943.
37. Conversation with Col. Brandon Barringer, 16 Jan. 1945.
38. In the fall of 1945 the gains and losses on Form 110A were reduced from a daily to a semi-monthly basis and the inventory data by serial number on "110B" was reduced from a monthly to a quarterly basis (R&R, AFSSC to AFSHO, 5 Oct. 1945, in AFSHO).
39. AAF Reg. No. 15-111, 27 Nov. 1942.
40. AAF Reg. No. 15-110, 1 Aug. 1944.
41. Survey of Stat. Control Div., Vol. I, Materiel Stat. Br.
42. AAF Reg. No. 15-110, 10 July 1943 and 1 Aug. 1944.
43. R&R, AFSSC to AFSHO, 30 Nov. 1945, in AFSHO.
44. AAF Reg. No. 15-110, 5 Sept. 1942.
45. AAF Reg. No. 15-110A, 9 Dec. 1942, and subsequent revisions.
46. AAF Reg. No. 15-110, 10 July 1943.
47. AAF Reg. No. 15-111, 27 Nov. 1942.
48. AAF Reg. Nos. 15-18, 5 Dec. 1944; 15-18A, 21 Feb. 1945; R&R, AFMSC to AFIHI, 16 Dec. 1944, in AFSHO.
49. Notes on the history of the Training and Operations Br., in files of M. B. MacCatherine.
50. AG 319.1 (10-1-42)OB-S-AF-M, 3 Oct. 1942, covering AAF Reg. No. 15-34, 15 Sept. 1942; AG 315 (23 Oct. 44)OB-S-AAF, 24 Oct. 1944.
51. AG 315 (23 Oct. 44)OB-S-AAF, 24 Oct. 1944; notes prepared by Combat Opns. Br. on Form 34 Opns. Reporting System, in files of M. B. MacCatherine; conversation with Col. Brandon Barringer, 16 Jan. 1945.
52. AG 452.1 (27 July 44)OB-S-E-AFMSC-M, 1 Aug. 1944; notes on history of Training and Operations Br., in files of M. B. MacCatherine.
53. Conversations with Col. Brandon Barringer, 16 Jan. 1945, and with Maj. J. S. Whittaker, 30 Jan. 1945.
54. AG 452.03 (12 Sept. 1945) OB-S-F-AFSSC-M, 17 Sept. 1945; R&R, AFSSC to AFSHO, 27 Sept. 1945, in AFSHO.
55. AAF Reg. No. 0-2A, 24 May 1943.
56. Notes on the history of the Aircraft and Equipment Br. and notes by M. B. MacCatherine, "Continental Reports," in files of M. B. MacCatherine; conversation with Col. Brandon Barringer, 16 Jan. 1945.
57. AAF Reg. Nos. 15-108, 9 July 1942; 15-108A, 22 Aug. 1942; 15-108, 15 Dec. 1942; 15-108, 1 Sept. 1943.
58. In addition to the pertinent regulations already cited, the foregoing account of the history of 108 report is based upon the following sources: R&R, Col. Brandon Barringer to MM&D, Supply and Maintenance Br., 11 May 1944, in AFSSC; notes by M. B. MacCatherine, "Continental Reports," in files of M. B. MacCatherine; conversations with Col. Brandon Barringer, 16 Jan. 1945, and with Capt. C. E. Beeson, 19 Jan. 1945.
59. M&S, Control Office, DAR for 30 Nov. and 21 Dec. 1944, in AFSHO.
60. Conversations with Col. Brandon Barringer, 16 Jan. 1945, and with Capt. C. E. Beeson, 19 Jan. 1945; Survey of Stat. Control Div., Vol. I, Materiel Stat. Br.
61. AAF Reg. No. 15-108, 7 Apr. 1945; R&R, AFMSC to AFIHI, 2 May 1945, in AFSHO.
62. AAF Reg. No. 15-113, 16 Apr. 1945.
63. AC Circular 15-10, 27 Nov. 1928.
64. AAF Reg. No. 15-10, 28 July 1942 and 15 Oct. 1943; notes on the history of the Aircraft and Equipment Br., in files of M. B. MacCatherine; conversation with Capt. C. E. Beeson, 19 Jan. 1945.

- 65. Conversation with Capt. C. E. Beeson, 19 Jan. 1945.
- 66. AAF Letter 65-7, 24 Feb. 1944, covered by WD Memo W95-44, 24 Feb. 1944, Overseas Supply and Maintenance Rpt.
- 67. Ltr., Maj. Gen. W. H. Frank to CG, AAF, 2 Dec. 1943, in Aircraft and Equip. Br. File.
- 68. Direc. relating to Form E-9, previously cited, and conversation with Capt. C. E. Beeson, 19 Jan. 1945.
- 69. Cable WARX 73926, 6 Dec. 1944, to theater commanders.
- 70. AG 452.13 (14 Oct. 44)OB-S-D-AAF-M, 6 Nov. 1944.
- 71. AF 452.13 (23 Feb. 45)OB-S-D-M, 26 Feb. 1945.
- 72. AG 400 (1 Feb. 45)OB-S-D-M, 27 Feb. 1945 Capt. C. E. Beeson outlined the general tenor of these equipment-reporting developments in a conversation on 5 Mar. 1945.
- 73. Memo for Col. C. B. Thornton from Col. Brandon Barringer, 10 Dec. 1943, in Aircraft and Equipment Br. File.
- 74. AG 463.7 (30 Dec. 43)OB-S-AFMSC-M, 1 Jan. 1944; AG 463.7 (30 Dec. 43) OB-S-AFMSC-M, 3 Jan. 1944; AG 463.7 (19 Jan. 1944)OB-S-AFMSC-M, 24 Jan. 1944.
- 75. AG 463.7 (10 Jan. 44)OB-S-AAF-M, 13 Jan. 1944, conversation with Capt. C. E. Beeson, 19 Jan. 1945.
- 76. Conversation with George B. Dantzig, 29 Jan. 1945.
- 77. Notes prepared on Form 34 Operations Reporting System by Combat Operations Branch, in files of M. B. MacCatherine.
- 78. AG 319.1 (10-1-42)OB-S-AF-M, 3 Oct. 1942
- 79. AG 315 (23 Oct. 44)OB-S-AAF, 24 Oct. 1944.
- 80. WD Memo W 850-44, 5 July 1944.
- 81. R&R, AFMSC to AFIHI, 16 Jan. 1945 in AFSHO. AAF Letter 15-23 of 20 July 1945 made certain revisions of Forms 34 and 34-1 "Monthly Operations Summary" effective on 1 Sept. 1945. In addition to the information already included, the revised forms were to "provide . . . a mission type of operations report which may be efficiently processed on tabulating equipment through the use of machine punch cards and . . . [Eo] provide a uniform summary of operations for use by the air force commander, theater commander, and the Commanding General of the AAF. (R&R, AFSSC to AFSHO, 22 Aug. 1945, in AFSHO).
- 82. Sources for the preceding discussion are, in addition to the directives cited: conversations with Maj. J. G. Osborne, 25 Jan. 1945, with George B. Dantzig, 29 Jan. 1945, and with Col. Brandon Barringer, 16 Jan. 1945; notes prepared by Combat Opns. Br. on Form 34 Opns. Reporting System, in files of M. B. MacCatherine, history of the Combat Opns. Br., 1944, in Combat Opns. Br. File.
- 83. R&R, AFMSC to AC/AS A-2, 2 Feb. 1943, in AFSSC.
- 84. Notes prepared by Combat Opns. Br. for Form 34 Opns. Reporting System, in files of M. B. MacCatherine.
- 85. AG 319.1 (26 Aug. 44)OB-S-E-M, 31 Aug. 1944; notes on history of Training and Opns. Br., in files of M. B. MacCatherine.
- 86. Conversations with Col. Brandon Barringer, 16 Jan. 1945, and with Maj. E. R. Finch, 24 Jan. 1945; AAF Letter (c) 80-2, 30 Dec. 1944. All matters relative to foreign statistics--collection, representation, liaison, exchange, special reporting, analyses--were handled by the Foreign Statistics Branch. From the Headquarters AAF standpoint, it might have been desirable to divide these matters among the branches according to function. Such a practice, however, would have unduly complicated the liaison problem.
- 87. R&R, AFDMC to C/AS, 14 Aug. 1942, in AFSSC; R&R, AFDMC to DC/AS, 18 Sept. 1942, in AFSSC, Itr., Lt. Col. C. B. Thornton to CG 1st AF, 24 Nov. 1942, in AFSSC.

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88. R&R, DC/AS to AFDMC and subsequent comments, 12-18 Apr. 1943, and ltr., AFDMC to CG 1st AF, 19 Apr. 1943, in AAG 319.1.
89. AAF Reg. No. 80-2, 14 Apr. 1942.
90. Hq. O. I. 80-32, 9 June 1943.
91. R&R, AFDMC to AC/AS Intel., 28 Dec. 1943, in AFSSC.
92. AAF Letter 80-3, 7 Dec. 1943. This was not intended to restrict intelligence from requesting and submitting data through approved intelligence channels. Moreover, an amendment, AAF Letter 80-3A, 15 Mar. 1944, specifically exempted "spot information" from the operation of the directive.
93. R&R, AFMSC to AFMOP, 21 Jan. 1944, in AFSSC.
94. R&R, AFMSC to AFIHI, 5 Nov. 1943, in AFSHO.
95. AAF Letter 80-5, 6 Jan. 1944.
96. AAF Reg. No. 20-11, 25 Mar. 1944.
97. AAF Reg. No. 80-2, 1 Jan. 1945.
98. R&R, AFMSC to AFIHI, 10 May 1945, in AFSHO.
99. ASF Circular No. 17, 13 Apr. 1943.
100. ASF Circular No. 62, 17 Aug. 1943.
101. Memo for CG ASF, from Brig. Gen. B. E. Gates, 10 Mar. 1944, in AAG 319.1; 1st ind. (ltr., Col. Ward Wheelock to AFMSC, 22 Mar. 1944) Brig. Gen. B.E. Gates to CG ASC, 3 Apr. 1944, in AAG 319.1.
102. R&R, AFMSC to AFIHI, 6 Feb. 1945 in AFSHO. Effective 15 June 1945, standardized reports control procedures became effective for the WD General Staff, the AAF, the AGF, and the ASF. All reports were to be brought under the provisions of the circular by 15 Sept. 1945 (WD Circular No. 168, 6 June 1945).
103. R&Rs, AFSSC to AFSHO, 22 Aug. and 17 Dec. 1945, in AFSHO; Thornton report, pp. 83-84.

B I B L I O G R A P H Y

Official Documents

Headquarters Air Forces:

AAF Letters
AAF Regulations 15-20, and 80 series
AC Circulars 15 and 120--series
Annual Report of the Chief of the Air Corps, 1932-1939
Headquarters Office Instructions 80--series
OC/AC Memos 10--series
Organization Charts
Special Orders

War Department:

Army Regulations 345--and 605--series
Circulars 120--series

Material Division:

Letters of Instruction
Notices
Annual Reports of Chief, 1927-1932

Air Adjutant General Files (Cited AAG)

000.800 Harvard University
201.22 Commendations
210.31 Statistical Officers
211 Field Coordination Officers
211 Statistical Officers
300.8 Regs 20-30
300.310 Economy in Administration
310 Business Methods and Procedures, Miscellaneous
310.1 Miscellaneous Office Administration and Organization
310.311 Economy in Administration
315 Blank Books and Blank Forms #4
319.1 Statistical Reports
319.1A Reports, miscellaneous
320.4 Miscellaneous
321.9 AAF Statistical School
321.9 Air Staff, AAF
321.9 General Organization of the Inspection Division
321.9 Organization ODAS Administrative

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321.9 Organization of Plans Division
321.9A2 Organization AC-AF
321.9C Organization OCAC
321.9D Organization OCAC
321.9F Organization AC-AF
321.9H Organization AC-AF
322 Statistical Control and Machine Records
322 Statistical Control and Machine Records, Miscellaneous
337 Conference, Military, Naval, and Others
352.01 Establishment of Schools
352.11 OCS Miscellaneous
353 Statistical Training
353 WAC Training
Bulk Plans Division, 6-30-41

Important for the entire study, but especially for the period up to March 1942. After that date, the material in the Statistical Control files is often more complete.

310 (7-17-40) EX
310 (10-8-40) EX
310 (10-9-40) EX
310 (10-30-40) EX
320.2 (1-19-42)
320.2 (1-24-42)
320.2 (16 May 1945)

Significant for materials concerning the Machine Records Units and for information on statistical operations throughout the War Department and military establishments overseas.

Office Files

Office of Statistical Control:

The central files and the files of the various branches constitute the most valuable depository of information for this monograph.

Historical Office:

AAF Studies

No. 10, "Organization of the Army Air Arm, 1935-1943"

No. 14, "Inspection Control in the AAF to May 1944"

Others:

"History of the Army Air Forces Materiel Command, 1926 thru 1941"

"History of the Army Air Forces Materiel Command, 1943"

Histories of various Statistical Control Units as cited in notes

Plans Division files up to 1941

These files are important for organization in the early period, for the organization and working of the units in the field, and for general day-to-day relations and technical supervision.

Bureau of the Budget:

Contain significant material on the beginnings of the real statistical control system in the AAF.

Personal:

M. B. MacCatherine, Office of Statistical Control.
Constitute a valuable complement to the AFSSC central files.
Earl E. Ritzert, Control Office of the Air Inspector.
Important for the period prior to March 1942.

Published Articles

"The ABC of D-Day," *Air Force*, December 1944.
Lt. Col. F. H. Walton, Jr., "How to get Facts and Influence People,"
Military Review, December 1944, pp. 52-56.



Appendix I

ARMY AIR FORCES STATISTICAL SCHOOL

as of July 1942*

1. Purpose

To train enlisted personnel in the preparation, interpretation, and use of statistical data; to instruct them in the correct preparation of report forms relating to Army Air Forces personnel, materiel, and operations; to instruct them in auditing such reports; to instruct them in elementary statistical procedures and methods of graphic presentation; and in general to prepare them to perform the duties of Statistical Officers of the Army Air Forces Unit.

2. Duration of Course

30 days of instruction--240 hours

3. Program

Approximate Hours

Academic Subjects

| | |
|--|-----|
| a. Basic Records--Morning Reports, Sick Reports, Service Records, Soldier's Qualification Cards (AGO Form 20),--and relation to statistical reports..... | 13½ |
| b. Weekly Report of Personnel Status--AAF Form 127 (revised)..... | 53½ |
| (1) Model Form and Regulations | |
| (2) Relating T/O's to Column A. AAF Form 127 (revised) | |
| (3) Preparation AAF Form 127 (revised) from Air Corps Duty Assignment Cards | |
| (4) Auditing AAF Form 127 (revised) | |
| (5) Interpretation AAF Form 127 (revised) in Washington and at various command levels | |
| (6) Other conference and review | |
| (7) Examinations | |
| c. Air Corps Duty Assignment Cards, AAF Forms 125 and 126. Preparation of Squadron Set--Preparation of reports..... | 23 |
| d. Report of Arms and Services Personnel Assigned to Army Air Forces--AAF Form 128..... | 5 |
| e. Report of Student and Recruit Status--AAF Form 131..... | 5 |
| f. Combat Readiness Report..... | 3 |
| g. Squadron Status and Condition Report--AAF Forms 129 and 130..... | 5 |
| h. Reports prepared by Director of Statistical Control..... | 1½ |
| i. Squadron Relations between Statistical Officers and other officers..... | 6 |
| j. Reports on Materiel..... | 23 |
| (1) General | |
| (2) Daily Status and Change of Status Reports Practical Exercises Status Reports for Tactical Units | |
| k. Supply System and Statistics..... | 10 |
| l. Engineering and Statistics..... | 6 |
| m. Operations and Statistics..... | 7 |
| n. Army organization, staff and command functions, communication channels in relation to statistical officer..... | 2½ |
| o. Statistical Methods and Analysis (including graphic methods)..... | 11 |

Total Academic 175

*Appended to 1st Ind. (AFRIT to CO, AAF Technical Training Det., AAF Statistical School, 23 July 1943), Maj. John A. Heflan to AFRIT, 29 July 1942, in AAG 000.800.

| <i>Program</i> | <i>Military Subjects</i> | <i>Approximate Hours</i> |
|----------------|---|--------------------------|
| p. | Organization and Function of Army and Army Air Forces..... | 8 |
| | (1) Army as reorganized 3/9/42 | |
| | (2) Typical Air Force Organization | |
| | (3) Representation Squadrons T/O's | |
| | (4) Task Forces | |
| q. | Tactical Operation of the Air Forces Coordination among tactical units..... | 6 |
| r. | Duties of Air Force Personnel | |
| | Functional description of AF duty assignments in various type units..... | 6 |
| s. | Identification of U. S. Aircraft..... | 8 |
| | (1) Methods of Identification | |
| | (2) Structures and Basic Characteristics | |
| | (3) WD Circulars and Bulletins | |
| | (4) AAF Regulations | |
| u. | Military Law..... | 9 |
| | (1) Historical Background | |
| | (2) Articles of War | |
| | (3) Court-Martial Procedure | |
| v. | Military Discipline Courtesy and Customs of the service..... | 8 |
| | (1) Salutes and Courtesies | |
| | (2) Display and Use of Flag | |
| | (3) The Officers' Code | |
| | (4) Social Amenities | |
| | (5) Discipline | |
| w. | Physical Training..... | 15* |
| | (1) Calisthenics | |
| | (2) Group Games | |
| | (3) Close-Order Drill | |

*Plus 15 additional hours evening instruction.



Appendix 2

AAF STATISTICAL SCHOOL
OUTLINE 8-WEEK'S COURSE (EXPANDED)*

Academic

| | |
|--|----------|
| 1. Orientation and Review..... | 11 hours |
| Introduction--duties of stat. officer..... | 2 |
| Interpretation and use of data, Form 34..... | 1 |
| Review Weekly..... | 8 |
| 2. Organization and Administration..... | 10 hours |
| Squadron group, wing for fighter and bombardment; hq. AAF and Stat. Control; minor amount on higher echelons; air base, service group, and sub-depot to engineering and supply. WD T/O to AF T/O with 127; Cranshaw memo | |
| 3. Air Power, Global Warfare and Statistics..... | 4 hours |
| 4. Squadron Relations..... | 12 hours |
| Umpteenth Fighter Squadron..... | 6 |
| Other cases and swing over..... | 6 |
| 5. Graphic Presentation and Statistical Methods..... | 20 hours |
| Graphic Presentation..... | 4 |
| Methods Problems..... | 16 |
| 6. Regulation 15-127..... | 27 hours |
| Analysis Problem--Bomb Group..... | 10 |
| Directive, model problems, auditing..... | 12 |
| Field exercise (true-false and completion, 1 hr.; long problem exercise, 3 hrs; review, 1 hr..... | 5 |
| 7. Personnel System and Classification..... | 10 hours |
| Enlisted men classification, Initial, Classification and Reclassification; Officer Classification, Field Problem | |
| 8. Housing Reports..... | 7 hours |
| Regulation 2 Field Problem | |
| 9. MRU and Morning Reports..... | 6 hours |
| 10. Statistical Officer's Notebook..... | 4 hours |
| 11. Transmission of data..... | 3 hours |

*Incl. 11, AAF Statistical School Organization Hist., 7 July 43-29 Feb. 44.

| | |
|---|----------|
| 12. Engineering and Supply..... | 43 hours |
| Inspection System*..... | 4 |
| Maintenance and Supply..... | 13 |
| Field Problems..... | 5 |
| Status and Flying Time Reports..... | 8 |
| (Directives and Problems) | |
| Field Exercise S & F T Reports..... | 4 |
| Analysis Problem..... | 6 |
| Foreign Theater Supply..... | 3 |
| *Forms 1, 1A, and 5 from operations will be taught along with this material | |
| 13. AAF 15-134..... | 4 hours |
| 14. Operations..... | 33 hours |
| Forms 1 and 1a..... | 2 |
| Form 5..... | 2 |
| Form 14..... | 2 |
| SC-14B OTU Reports..... | 6 |
| Operations Case 1..... | 6 |
| Operations Case 2-Efficiency Indexes..... | 4 |
| Operations Case 3-Instituting Control In Special Operations..... | 8 |
| Training Directives-Operations Manuals..... | 3 |
| 15. Combat Statistics..... | 40 hours |
| 1. Tactics and technique of air combat as background material..... | 5 |
| 2. Introduction to form 34, including sample problems to be filled in..... | 6 |
| 3. Comparative studies of 127, 110 and 111, forms as used in 5th and 8th Air Force and the MAC..... | 5 |
| 4. Analysis problems from form 34 sample sets 17 | |
| a. Maintenance..... | 4 |
| (1) Effects of activity and battle damage | |
| (2) Maintenance as a limiting factor on activity | |
| b. Combat Effectiveness..... | 6 |
| (1) U. S. and enemy losses under various circumstances of activity, types of missions, formation and sizes of attacking and defending forces. | |
| (2) Bombing accuracy and effectiveness and the conditions influencing it. | |
| c. Attrition..... | 4 |
| (1) Planes | |
| (2) Personnel--Combat casualties and sickness. War weariness and replacement. | |
| d. Consumption--Fuel, Ammunition and bombs..... | 3 |

5. Factors in staff planning of Air War..... 5

*6. Sortie and mission reports and analysis as required by lower echelons, particularly at air force and command level; 5th and 8th Air Forces and MAC.

7. Records maintained at group level for effective group management in Theaters of Operations, including:

Results--by individual missions

Readiness--and the factors influencing it

Flying time--with individual combat and fatigue figures

Losses

Consumption

*Material in this section will first be used to suggest additional facts to supplement that available from form 34. As adequate data become available they may be used for analytical purposes instead of the sample form 34's.

Total..... 40

16. Field Trips..... 16 hours

Total..... 250 hours

Military

1. Military and Physical Training Program--126 hours approximate.

- a. Orientation (Current events-1 hour per week)
(Orientation films-1 hour per week)..... 16 hours
- b. Drill, Ceremonies and Inspections..... 20 hours
- c. Extended Order Drill..... 2 hours
- d. Gas Mask Drill..... 2 hours
- e. Field Maneuver..... 5 hours
- f. Military Courtesy and Customs..... 1 hour
- g. Officer-Enlisted Man Relationship..... 1 hour
- h. Safeguarding Military Information..... 3 hours
- i. Army Emergency Relief--War Bonds and insurance..... 1 hour
- j. Use of FM 21-6 and 21-7..... 1 hour
- k. Military Correspondence and Special Orders..... 2 hours
- l. Adjutant's Duties--Practical Exercise..... 4 hours
- m. Military Law..... 8 hours

| | |
|---|-----------|
| n. Military Intelligence and Military Censorship..... | 8 hours |
| o Miscellaneous--Uniforms, Equipment, etc..... | 4 hours |
| p. Physical Training..... | 48 hours |
| | 126 hours |



INDEX

A

- AAF Administrative Officer Candidate School, 52-55.
- AAF Conference Room, 21.
- AAF Directorate of Flying Safety, 17.
- AAF Directorate of Individual Training, 51. *See also* Training Comd.
- AAF Directorate of Personnel, 71. *See also* AC/AS, Personnel.
- AAF Directorate of Statistical Control, 12, 14-17, 24, 29, 31-32, 37, 42, 51, 53, 57, 62, 84, 88, 81-92. *See also* Director of Statistical Control; Statistical Control Div.
- AAF Letter 15-3, 72.
- AAF Letter (c) 15-6, 72.
- AAF Letter 121-51, 90.
- AAF Manual (c) 80-5, 75.
- AAF Regulation 15-10, 82.
- AAF Regulation 15-34, 85.
- AAF Regulation 15-107, 80.
- AAF Regulation 15-108, 81-82.
- AAF Regulation 15-110, 77.
- AAF Regulation 15-125, 68.
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