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industry.¹ In each of these cases the investigators sought to establish the sources of job leads. Given the perspective of the displaced worker, he was forced to explore all avenues that might direct him to a new job. Taking the obverse of this situation, we do have then a congeries of vacancies to be examined. Yet in the Sheppard *et al.* study the predominant sources of information about a new job came from a friend or relative or a rumor that was diligently pursued. Almost 60 per cent of the new job leads—in essence, knowledge about vacancies—stemmed from this informal, ill-structured segment of the labor market. About a fifth were fortunate enough to be called back; the more formal modes—applications at plant gates, newspaper ads, the Michigan Employment Commission, and others (doubtless including private agencies) supplied but 20 per cent of the leads. One presumes that the “other” category, comprising 6 per cent of the sources of new job leads, contained employment agencies under its rubric. In all probability the latter did not make up the whole category. An additional 3 per cent of the sources consisted of newspaper ads.

A similar pattern is revealed in the Ferman study of the *Detroit Times*. In this case, of 157 editorial and commercial workers who found jobs within a six-month period after layoff, only nine utilized the resources of private employment agencies and newspaper ads—about 5.7 per cent of the total. Similarly, the Wilcock and Franke volume indicates that the formal avenues of job search—employment services and newspaper ads—supplied relatively narrow channels through which displaced workers could uncover available job vacancies in the five cities studied (East St. Louis, Columbus, Fargo, Oklahoma City, and Peoria). It is well to observe that these results are sustained in Conant's interesting paper.

We suggest, then, the obvious—that private employment agency and newspaper ads indicate access to a small part of the universe of job vacancies. Moreover, we do not know to what degree the vacan-

¹ H. L. Sheppard, L. A. Ferman, and S. Faber, *Too Old to Work—Too Young to Retire* (U.S. Senate Special Committee on Unemployment Problems), Washington, 1959; L. A. Ferman, *Death of a Newspaper: The Story of the Detroit Times*, Kalamazoo, 1963; R. C. Wilcock and W. H. Franke, *Unwanted Workers*, New York, 1963.

cies they do reveal are or are not representative in a statistical sense of the totality of vacancies. Under such circumstances, the reservations and doubts about using partial data to describe a universe must be underscored. Hence, I find Conant's caveats much more helpful than the quixotic boldness displayed in Moore's paper on temporary help services.

On the other hand, Mrs. Boschan's paper is a sophisticated treatment of time series entirely within the tradition of the National Bureau, and there can be little quarrel with either the techniques employed or the statistical description offered. Without question, there is much that Mrs. Boschan says on which we can reflect with profit: certainly the behavior of a time series based on newspaper and display ads will not have to be explored for some time to come. Yet it is evident here as well that we can say nothing about the characteristics of *all* job vacancies. One has the distinct impression that this limitation is accepted by Mrs. Boschan.

However, before commenting on some specifics of her paper, may I call attention to the most interesting remarks at its end regarding stock-flow ratios in the placement and unemployment insurance sections? This I find perhaps the most penetrating observation of all, for if the relation of the insurance stock-flow ratio is so much larger than the one for vacancies, and if, as Mrs. Boschan suggests, this may be a reflection of what goes on outside the government Employment Service office rather than of some internal administrative peculiarity, then may we not ask wherefore the recent furor over vacancies? Indeed, the allegation that one of the structural problems is a case of mismatching square pegs and round holes would itself be an illustration of misplaced emphasis. If but this one page of Mrs. Boschan's paper were taken as seriously as it deserves at Constitution and 14th Street in Washington, there might ensue a reallocation of resources in the Labor Department.

But to continue with Mrs. Boschan's time series. I would suggest that there is an inflated character, at the moment unmeasurable, in executive display ads. As she acknowledges, there is an institutional motivation in placing these ads which dilutes any meaning that can be attached to a time series derived from them. Moreover, there is a notorious tendency for the firms—many of

them in defense and space research and engineering—to hoard skilled personnel perhaps in anticipation of a prospective contract. They may or may not be serious in their ads about creating vacancies; on the other hand, labor piracy for the sake of hoarding, it seems to me, plays hob with the notion of vacancies. Related to this is the fact that the basis of production in many of these firms is a government contract or a derivative therefrom. Is this the explanation for the sharp drop in total display ads and in defense and general engineering at the beginning of 1963. Unless one assumes a closer relation between defense and space and related sectors and the general economy than is apparent, the usefulness of such a series does seem to be weakened.

Perhaps some insight into the behavior of such series could be further developed if the amount of newspaper space taken over time were measured in addition to the number of ads. This could be analyzed by firm and industry: if the display ads keep getting fatter in relation to the number of applicants sought, it might be possible to establish an index of prestige, say, somewhat like Geoffrey Moore's famous diffusion index. At any rate, it seems reasonable to suggest that we have, in the amount of space taken, a variable that might be analyzed together with all the others. This conceivably could suggest the degree to which the purely advertising component enters into the minds of the purchasers of display ads; indeed, if there is no way of discounting this factor, the value of the series as a precise indicator seems limited.

There is little that one can add to Mrs. Boschan's careful strictures concerning classified help-wanted ads. One subjects their quantity and movement to all the statistical techniques, but in the end, as with each of the alternatives discussed here, we simply measure a time series. The prior question as to whether the series is an indicator of anything other than itself must be weighed. Of course, we cannot hold Mrs. Boschan responsible for that: the debate no doubt will be carried on elsewhere. But so far as she has gone in her paper, the analysis is impeccable, given the nature of her assignment. And by specifying the limitations of the series, such as the stress on white-collar workers, she performs an important service—especially for those who have had the same reser-

vations to begin with. One is impressed too by the care with which inferences are drawn. For example, while it is suggested that the want-ad series tends to be correlated with quit rates, this is properly modified by such factors as changes in the labor force, advertising practices, and the like. Hence, it is conceivable that the lower level of want ads simply reflects a relatively smaller resort to this medium by employers. If that is the case, then we are reaching out to an even smaller portion of the surface of the elephant. All this is stressed by Mrs. Boschan, and properly so: without some knowledge about the absolute level of job vacancies, all we are talking about is the behavior of a series per se.

These qualifications apply with equal force to data derived from the records of employment agencies. However, let me start first with a few remarks on Moore's paper. Initial perusal raises a legitimate conceptual question: does the temporary help situation indicate a genuine vacancy? A momentary need arises—often for a clerical worker—which is quickly met. The required task may last a day or several days, and while the employer—a lawyer, mail-order advertising house, or economic consultant—needs to get the junk mail out or have his client's report typed, once the need is met there is no job. In the sense of the Gordon report, one can ask whether this is an activity of seeking employees. Dr. Moore tells us that half the temporary help-seekers in Atlanta would not have employed extra personnel were the service not available. That is, half the "vacancies" by his definition would disappear in the absence of this new business service. One notes too that while the Chicago Pilot Study definition excluding casuals was modified, in actual practice these were not included. Surely these considerations have some relevance to the definition of vacancies used by Moore. Also, let us keep in mind Mrs. Boschan's observation of the spiraling reinforcement of vacancies and quits, which has a kind of poignant application here, especially when we substitute the word "cessation" for "quits."

These comments seem appropriate because it is assumed by Moore that a correlation exists between the demand for this sort of temporary help and the demand for permanent help. On the basis of this assumption of rather heroic proportions, it is sug-

gested that a job vacancy index can be constructed. However, a reasonable expectation would look toward some testing of such an assumption. What we know of the character of temporary help demand suggests a large element of accident, impulse, and aggressive solicitation by the new brokers of labor time. The correlation between the two kinds of labor demand, temporary and permanent, is presumably high as the economy approaches a peak. However, let us visualize for a moment a deep and serious trough in which the labor market is in a sense disrupted. Temporary help may also increase relatively under such conditions, as was the experience in many areas during the 1930's. But the correlation in this instance would be an inverse one. Here the relative increase of temporary help would hardly be indicative of an expansion in labor demand. Of what use then would an index be when it is constructed of presumptions stemming from a small segment of the total problem?

Further, observation of temporary-help suppliers in the Washington area suggests that their main function is to accommodate offices and firms seeking to fill momentary requirements for white-collar workers or, in a very few instances, low-paid materials handlers. Is this adequately representative for the construction of an index? Would not a marked bias be involved? It is rather difficult to draw anything but the most tentative conclusions, if indeed they can be drawn at all, with any degree of confidence. Moore does not hesitate to assert a relation between vacancies and temporary help because THS operators have said that it exists. Perhaps, but how shall we determine the character of that relationship if we do not possess adequate data on the universe of vacancies? It would have been helpful had we some indication, for example, of utilization of temporary help by industry, but one suspects that the smallness of the market would militate against any effective gathering of such data.

Consider also Moore's quite accurate description of the temporary-help market. The participants involve themselves in transitory situations: they are casuals in the true sense of the word and they are kept in that status by virtue of their agreement not to seek or acquire permanency even if invited to do so by the pur-

chasers of their services. Obviously, if this were done, it would become increasingly difficult for the supplying firms to conduct a proper business. What proportion of the market do these casuals represent? And are we to assume that such casual employment necessarily increases as bottlenecks in the labor market may be approached? Surely, this is an assumption that needs to be tested.

It is not clear whether Moore implies a constant ratio between THS jobs and the total job market or whether the ratio is itself a varying one. It is conceivable that the latter might be the case especially when the upward swing approaches a peak, for employers may shift their demand for labor from regular employment to THS for reasons quite external to the job market itself. If this were the case, then an increase in temporary vacancies would in no way indicate a correlative increase in normal openings. The situation would be analogous to developments in the retail job market, where employers, seeking to convert the discretionary fixed cost of direct selling expenses into a variable, have tended to replace full-time employees with part-time employees. A relatively simple index such as has been suggested would fail to indicate the qualitative shifts revealed by such changes. But, of course, that is a problem inherent in any attempt to measure job vacancies. Again, the cautions that Conant has expressed on the use of job orders would apply to THS operators as much as they do to ordinary employment agencies. These comments are intended to underscore my reservations about the proposed approach. One would hesitate to apply public or private resources to develop a method of measurement the results of which promise to be quite meager.

Dr. Conant's study of private employment agencies would appear to sustain this rather dour conclusion. Wherever one turns in this segment one discovers either a paucity of data or an unwillingness to develop them or both. The absence of adequate verification, the failure to report to state bodies (Conant indicates that only about half the agencies licensed in Illinois in 1963-64 submitted reports), the enormous expenditure of effort that would be required to obtain improved reporting, weak information on the time factor, all militate against the utilization of private employment data as

vacancy indicators. Moreover, is a solicited order a vacancy? This query would apply also to the THS market, where solicitation appears to be applied even more aggressively. To that extent, we are likely to obtain, as Conant says, overstatement. One notes too that the structure of the private employment agency "industry" suggests an uneven distribution of industrial and occupational specialties.

The consequence is that one cannot even render a Scotch verdict. One's reactions to the possibilities of using such materials as reviewed by Conant and Moore is entirely negative: at least, present circumstances offer no genuine prospects for deriving a picture of job vacancies from these severely limited sources. While Conant explicitly acknowledges the point, Moore is more hopeful. The likelihood is that attempts to describe the elephant by touching the end of his trunk are invitations to frustration.

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In 1964, when plans were being made for the experimental job vacancy surveys, I urged that wages and a quantitative measure of duration be included among the data to be collected. However, I must admit that I had no specific model in mind. I simply believed that the wage and duration data would permit a more thorough economic analysis of the results of the job vacancy survey. The political and operational pressures that pushed the survey into reality did not leave time for design considerations related to the effective analytical use of the data.

The decision to collect the data was made without any clear idea of how job vacancy figures could be used for purposes other than improving the operation of the employment service. There was some concern that the definitions of a vacancy and an unemployed person be as parallel as possible so that the two aggregates could be compared. There was also some discussion of the possible use of vacancy data in planning training and education programs.

But in general, the survey was implemented with little critical consideration of the possibilities and limitations of job vacancy data.

Perhaps that was the best way to make progress. At least a program has been started, and it can be improved and made increasingly effective over time. But, at least at the present time, we still appear to have only a rather vague idea of how vacancy data should be interpreted. Indeed, it is clear from the papers that skipped lightly over definitional problems that we are not all agreed on what data should be collected. I certainly do not argue that job vacancy information now being developed is without value, but with new data in the offing there is a real danger that job vacancies will be given a significance they do not deserve.

For example it was said at this meeting that if total job vacancies equaled total unemployment, there would be no problem of aggregate demand; that the unemployment problem would be structural. Of course, in a definitional sense the equality implies that if all the unemployed could be transformed without a lag into workers with the exact characteristics called for by the job vacancies, unemployment would disappear (assuming no side effects). But that is not the relevant question. The issue is whether unemployment will respond to aggregate demand without inflationary pressure. The equality of vacancies and unemployment has no necessary implication for policy. It may be that the neutral or non-inflationary relation between vacancies and unemployment is equality, but it could be inequality in either direction. We simply do not know. So that at a given unemployment rate, the equality of unemployment and job vacancies would *not* tell us whether or not an increase in aggregate demand would reduce unemployment without creating inflationary pressures.

It will require considerable refinement of the data, time enough for a meaningful series to develop, and a great deal of theoretical work before we can use job vacancy data as an effective policy tool. As one of the papers demonstrates, a job vacancy index probably will be highly correlated with other cyclical indicators. But there is as yet little evidence that the relations change significantly over time so that the additional variable—job vacancies—can improve

our ability to understand and predict the behavior of the economy.

I feel economists interested in this area have been guilty of not providing a sufficient tie between analysis and data requirements. At this meeting we have heard several interesting discussions of the possibility of building the vacancy variable into economic models. But there has been little indication of the occupational, industrial, or wage detail that would be required to test significant hypotheses.

Perhaps it is too early to expect specific requirements from economists. But if we are not prepared to spell out our specifications, we should take very seriously Margaret Martin's suggestion that the opportunity costs of the job vacancy surveys be given careful consideration. Are there other areas that are of more immediate importance for the improvement of manpower and general economic policy decisions?

The purpose to be served by an indicator is of critical importance in designing a data collection system, or in evaluating a proxy. The papers that I have been asked to discuss analyze a variety of possible proxies for a job vacancy series.

Moore's analysis of temporary help services convinces him "that there is a sufficient relationship between the demand for temporary help and job vacancies to warrant some investigation of the possibility of establishing a job vacancy index." On the basis of his paper I must respectfully disagree. There appears to be no reason to attempt to squeeze a job vacancy index from this unlikely source. The temporary help services represent a minuscule and clearly nonrepresentative fraction of the labor market. This specialized labor market may be of considerable interest for other purposes, but there is no evidence that it would provide a useful proxy for a job vacancy index.

Conant's paper struck me as a forthright and conclusive evaluation of private employment agencies as sources of job vacancy data. I am now firmly convinced that they could not provide satisfactory data, and that, having considered the possibility, we should go on about the business of developing a reliable job vacancy survey. Among the telling weaknesses highlighted in the paper were the very small average placements per month for most agencies, the

serious limits on available data, the bias in data development resulting from the operations and charges of the agencies, the problems caused by multiple filing of job openings, and the great difficulty in obtaining effective compliance with a data collection program.

In his oral presentations Conant appeared to waver in his conclusions. In the absence of extensive new evidence I would hope that he would stand fast. His paper is a carefully documented argument that private employment agencies are not a satisfactory source of job vacancy data. I for one found it very convincing.

Mrs. Boschan's excellent paper evaluates display ads for executive positions, help-wanted advertising, and job openings registered at state employment offices as measures of cyclical fluctuations in unfilled demand for labor. The first two series are highly correlated with other measures of economic activity, but there is no evidence that would suggest that either help-wanted advertising or the display ads for executives would be reasonable proxies for total job vacancies.

In spite of their close conformity to the business cycle, there is no indication that either of these series improves our ability to understand or predict cyclical economic activity. As might be expected, the help-wanted index is related to the rate of change of employment. But the paper does not suggest that the index is a better cyclical indicator than the employment data. In fact, given the real danger of misinterpretation, it is not clear that we are better off because we have either of these measures. They have obvious limitations as proxies for total job vacancies, and it is improbable that even a sophisticated occupational analysis of the data would provide information with enough lead time to facilitate planning for training programs.

In spite of the caution displayed (at least in the footnotes) by most analysts who use these series, the danger of misuse is real. Recently, Gainsbrugh noted that the rate of increase of the help-wanted index in two labor-surplus areas was greater than the national average. He then stated, "severe shortages of labor can thus occur even in areas of chronic unemployment." It appears to me that this conclusion is a complete nonsequitur. The evidence cited

provides no basis for concluding that a shortage of any kind exists.

On the basis of Mrs. Boschan's analysis, I am prepared to believe that the help-wanted index and even the measure of display ads for executives might improve our understanding of the business cycle. But even this is not apparent, and they should be handled with care for any other purpose.

As in the case of the other two series, the job openings registered with state employment offices are highly correlated with other leading business cycle indicators. The stock of openings shows a consistent pattern of leads at peaks and of coincidences at troughs. As a result the paper suggests that the series may be eligible as a business cycle indicator. But again there is no evidence that it would be a better indicator than those we have, or that it would improve our understanding of the business cycle.

Other papers presented at this meeting, in particular the work reported by Chavrid and Kuptzin, provide some evidence of the extent to which the Employment Service data might be used as a proxy for total vacancies. But analysis of the possibilities is in the preliminary stages. Mrs. Boschan's imaginative suggestion that comparative stock-flow ratios for employment service vacancies and unemployment be used to estimate the relative volume of aggregate vacancies and unemployment makes a heroic leap over the obvious limitations of the data. The utilization pattern of the employment service is too limited and insufficiently representative of the total labor market to support the suggested analysis. And the ratios are affected by many factors that would not influence the aggregate data.

Mrs. Boschan also suggests a technique for separating frictional and structural vacancies. But the original formulation has a logical flaw. Assuming an average delay of one-half month to fill frictional vacancies, and a monthly flow of one million vacancies, there could not be *more than* one-half million frictional vacancies.¹ There could be any number of frictional vacancies *less than* one-half million. If total vacancies were three million, of which one-half

¹
$$\frac{\text{Stock of frictional vacancies}}{\text{Flow of vacancies per month (1 million)}} = \text{Average delay } (\frac{1}{2} \text{ month})$$
Therefore, stock of frictional vacancies = $\frac{1}{2}$ million.

million were frictional, *all* the remaining vacancies would be *permanent*, since we have assumed that all of the flow in and out of the stock is by the half-million frictional vacancies.

Mrs. Boschan makes several other interesting points in her analysis of the employment service job vacancy data. The ratio of placements to openings received is relatively constant, and the paper points out that cyclical, seasonal, and irregular behavior of placements is overwhelmingly dominated by the openings received. Placements appear to be determined by the demand for, and not by the supply of, labor at employment offices.

One might be tempted to conclude that this demonstrates that no labor shortages developed at cyclical peaks. But I am afraid the data may be explained by compensating cyclical behavior of employment service clientele, or by what might be called the "level-of-aspiration principle." Employment service personnel may measure their own performance by the extent to which they are able to maintain something like the 80 per cent placement-to-openings ratio. Their efforts to meet a standard of this type could have a substantial influence on the pattern of their activities and would disguise the changing labor market conditions.

In any event I will not use this as evidence against those who fear the development of bottlenecks if Killingsworth will not take seriously the suggestion that residual openings at cyclical troughs are due to structural changes in demand.

The introduction and the general discussion that Mrs. Boschan added to her statistical analysis raise many of the critical questions that must be dealt with in the development and interpretation of job vacancy data. She points out that the source (quits or new demand), duration, and wages associated with job vacancies will affect their analytical relevance. Although I do not agree with her in detail, the points she raises deserve the critical attention of those who are trying to obtain or use job vacancy data.

We should try to learn more about the characteristics of job vacancies, the role they play in the operation of the labor market, and the extent to which they create an upward pressure on wages. This conference has made an admirable start.

REPLY BY MOORE

It might have been more appropriate to refer to the papers in this closing session as auxiliary, or supplemental, approaches, rather than alternative approaches. Seligman seems to recognize that none of these papers envisions a general job vacancy index, by referring to them as "piecemeal" approaches. But in the case of my paper, he implies that my alleged boldness appears to ignore the limitations in using partial data to describe an entire universe.

In general, I share Seligman's pessimism; it may be that faulty expression obscured my awareness of the existing limitations. And yet, I believe he may have been a bit hasty, as well as overstating his case, in summarily writing off my approach. I should like to confine my rejoinder to some specific instances.

Seligman refers to my "heroic" assumption of some correlation between the demand for THS-type help and the demand for permanent help, and elsewhere states that I have asserted this relationship because THS operators say it exists. Actually, I only stated that THS operators report some pattern between their volume and the general business cycle;¹ on that basis, I *hypothesized* that since there is a relation between the general business cycle and job vacancies, then it appears logical to surmise some relation between THS volume and job vacancies.

I am not sure Seligman's observation that the demand for temporary help has been known to decline, in the face of falling demand for permanent help, such as in the 1930's, is relevant. While I am not aware of the specifics on the falling demand for temporary help in the 1930's, it may be that the use of direct temporary help to replace permanent help was the rule, whereas THS help is largely used to supplement the regular work force, as I have noted.

The discussant is quite right in observing that solicitation by THS firms has been a large factor in the rise of the industry. But is not the volume of newspaper help-wanted ads and of orders received by private employment agencies and by the public Employ-

¹ I have had no success in obtaining the necessary information to test the validity of these reports; requests for figures on a national basis are pending.

ment Service also affected by solicitation? Yet these are thus far the only other sources mentioned in job vacancy research (although Seligman obviously thinks little of these as well).

I concur in Seligman's hesitancy in applying public or private resources to the development of a measure of job vacancies based on THS volume with the scant information now available, and would certainly not advocate expending any substantial amount of such resources. Furthermore, I suffer no illusions that the establishment of a complete job vacancy index based on THS demand would be feasible at any time. But a major limitation on job vacancy data, expressed at this conference and elsewhere, is the global nature of the methods of approach. Thus, I do believe—humbly, not boldly—that there is a possibility of learning something of the changing structure of labor demand from THS records, if and when they should become accessible. For example, THS operators universally report a decline in their demand for comptometer operators and a noticeable increase in the demand for key-punch operators. Such change in the structure of the permanent labor market is common knowledge, of course. But it would seem possible that some less pronounced, and thus less obvious, trends might be detected from studying THS experience.

In conclusion, my guess is, due to the admittedly uncertain relation between THS demand and the demand for permanent help, that any use of THS experience in studying job vacancies, if forthcoming at all, will probably depend on further developments in the trial-basis arrangement discussed earlier.

Author Index

- Abbeglen, James, 201
Ackley, Gardner, 113
- Bakke, E. Wight, 56
Ball, R. J., 73, 108
Bancroft, Gertrude, 106, 323
Becker, Gary S., 2, 106
Behman, Sara, 141
Berman, Barbara R., 96, 106
Berridge, William A., 500-501, 502, 506
Berry, R. A., 107
Beveridge, Oscar M., 500
Beveridge, Sir William, 51, 52
Bhatia, R. J., 106
Boschan, Charlotte, 12, 97, 491-518,
568-570, 576-578
Bowen, W. G., 107, 131
Bowman, Raymond T., 28
Brazer, H. E., 80, 87, 88, 109
Brown, E. G. Phelps, 107
Bry, Gerhard, 491, 502
Burns, Arthur F., 1, 23-25, 52, 123,
204, 502
Bush, Robert R., 90, 107
- Cain, Glen G., 73, 80, 87, 107
Carroll, Lewis, 175
Chamberlain, Neil W., 109
Chandler, J. H., 279
Chau, L. C., 110
Chavrid, Vladimir R., 10, 68, 373-403,
462, 472, 480, 508, 577
Chazelle, Jacques, 7-8, 237-264, 310, 322
Cohen, W. J., 80, 87, 88, 102, 107, 109
Conant, Eaton H., 12-13, 519-547, 566,
568, 572-573, 575
Creamer, Daniel, 305
- David, Martin H., 3-5, 73-110, 115,
118-122, 127, 129, 130-133, 137-141
Dembo, T., 108
Dernberg, Thomas, 75, 90, 110
Dicks-Mireaux, L. A., 30, 107, 122, 160,
267, 317, 406
- Dow, J. C. R., 30, 107, 122, 160, 267,
317, 406
Duesenberry, J. S., 267
Dunlop, John T., 3-7, 27-47, 113-115,
122, 128, 133, 134, 135, 137, 313,
464, 470
- Earl, Lewis H., 325-327
Eckstein, Otto, 73, 107, 131, 141
Edelman, Murray, 540, 542
Edwards, Alba M., 39
Edwards, Edgar O., 123
- Faber, S., 566-567
Ferber, Robert, 1-20, 25, 121, 447-487
Ferman, L. A., 566-567
Festinger, L., 108
Fine, Sidney A., 40
Finegan, T. A., 107
Folk, Hugh, 110
Ford, Neil, 11, 121, 447-487
France, R. R., 107
Franke, W. H., 50, 566-567
Friedman, Marvin, 5, 132-137
- Gainsbrugh, Martin R., 2, 30, 466, 576
Galenson, Walter, 44
Gallaway, L. E., 88, 107
Garfinkle, Stuart, 323
Gilpatrick, Eleanor, 5, 127-132, 139
Goldberger, Arthur S., 107, 108
Goldstein, Harold, 2, 276-280
Gordon, Robert A., 29
Greenberger, M., 109
Griffin, Keith B., 131
- Hansen, B., 107
Hansen, W. L., 107-108
Harber, W., 102, 107
Healy, James J., 33
Heidrick, G. W., 493, 497
Heller, Walter W., 112
Hening, John F., 49
Hines, A. G., 141