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## *Sociological and Social Psychological Factors*

CREDIT IS USED in the nonagricultural business world as an integral part of the over-all business operation. Business people, in general, consider credit as another economic resource available to them in the routine operation of their business affairs. There is some evidence, however, that this generalization does not necessarily apply to farmers as a group to the same degree that it does to businessmen.

Some of the factors which influence farmers to think differently about credit are examined in this chapter. In addition, some research evidence will be presented about how farm people think and feel about credit and the use of credit in purchasing goods and services.

Economists frequently refer to some of the factors limiting credit use within the dichotomous framework of internal and external capital rationing (e.g., Chapters 1, 2, 7, and especially the discussion by Coutu and Lindsey in Chapter 21). Some of the sociological and social psychological factors related to internal capital rationing will be examined below. Internal capital rationing involves self-imposed limitations on capital and credit use on the part of the person involved. It is the contention here that to understand the phenomenon of internal capital rationing, one must have some insight into the "self" which is involved in the imposition of these limits on capital and credit use.

In order to present the data relating to personality structure which may affect credit and capital use, a previously developed framework is used which has general application wherever individual action and decision-making is under analysis.<sup>1</sup> Throughout this paper certain concepts and definitions will be used that may vary slightly from the way in which they are used in economic writings. These terms are defined below:

A concept is a semantic symbolization of the relationship which is purported to exist between any two or more given phenomena.

A belief is a subjective interpretation of a concept.

A value is a subjective interpretation of the relationship which *ought* to exist between phenomena. Sometimes values are referred to as normative beliefs.

<sup>1</sup>Instructor's Guide: Communication Training Program, Unit 1 - Basic Communication, Section 3, The Group Process. Developed by the National Project in Agricultural Communications from an original manuscript prepared by Joe M. Bohlen and George M. Beal. Copyrighted 1956 by the American Association of Land-Grant Colleges and State Universities.

An attitude is an individual's tendency to act based upon his beliefs and values. A goal is a future relationship which an individual wishes to establish between himself and certain selected phenomena.

Means are courses of actions which may be taken to achieve goals.

Reality is that part of the relationships which exist between phenomena that are similarly perceived by different individuals in different places and/or at different times. For a given individual, the interpretation of the relationship between phenomena is a composite of reality and beliefs. If a person believes a relationship to exist between phenomena, insofar as his subsequent behavior is concerned, it does exist (cf. Johnson and Zerby's approach in Chapter 21). It is because of the truistic nature of this statement that it becomes necessary to understand the process of how man thinks, if his use of credit is to be fully understood.

### MAN, THE THINKING BEING<sup>2</sup>

Man is born into the world with certain potentialities which have been biologically determined (intelligence parameter, physical size, resistance or susceptibility to certain bodily ills, etc.). He is also born with a predisposition to act, or to sustain physical movement. Because of the unique nature of his intelligence, he is inclined to place all the phenomena which he perceives into patterns of meaningful interrelationships. Man is an organizing being. He organizes the world around him into patterns of cause and effect which to him are rational. In many instances he does this without taking into consideration all of the data that are known or are possible to know. Hence, he sometimes assigns relationships to phenomena which are spurious, from the point of view of scientific fact.

Man is able to go through the process of perceiving interrelationships because he has the ability to deal with abstractions. He can create symbols in his mind which have empirical referents in the universe about him. This frees him of the necessity of being in immediate sensory contact with phenomena in order to respond to them or act in relationship to them — a faculty unique to man.

Because man has this ability to deal with abstractions and communicate via exchange of symbols with meanings, he has another uniqueness. Man is the only form of life which is faced with the necessity of making a distinction between those things which are real and those which are possible. All of the life forms below him must have sensory experience with "real" things in order to respond to them. There is no intellectually perceived future for any life form which cannot use symbols in its mental operation. Possibilities are always in the frame of reference to the future. Since all life forms except man respond directly to stimuli, their behavior is much more easily predicted than that of

<sup>2</sup> For further elaboration of the ideas presented in this section, see Ashley Montagu, *Human Heredity*, The World Publishing Co., Cleveland, Ohio, 1959; George H. Mead, *Mind, Self, and Society*, University of Chicago Press, Chicago, Ill., 1947; John Dewey, *Human Nature and Conduct*, Holt, Rinehart & Winston, Inc., New York, 1922; Ernst Cassirer, *An Essay on Man*, Yale University Press, New Haven, Conn., 1944.

man. They respond in what is called the simple reflex arc, i.e., a direct response to a stimulus.

Man never responds to a stimulus per se. Whenever a human being is faced with a stimulus or problem, he responds not to it, but to the interpretation which he places upon it. He deals not only with the realities of the situation, but with the possibilities of it. Since he can deal in symbols, he can project himself into the future and mentally create alternative courses of action which he can evaluate and then make choices from this evaluation.

### The Unit Act

In order to discuss the above more concretely, it is necessary to move to the lowest common denominator of human behavior, that which will be operationally called "The Unit Act." The unit act consists of (1) the receipt of a stimulus, (2) the interpretation of this stimulus and the circumstances under which it was received, and (3) a response or an action. In contrast to the simple reflex arc described above, man thinks in terms of a stimulus which leads to interpretation and then results in a response. The response may be to do nothing, or not to act overtly in relation to the stimulus. This is an act in itself.

Before man responds to any stimulus toward which he has not developed a habituated pattern of behavior, he weighs alternative goal choices in terms of the kind of outcome he prefers, and selects a means for attaining the choice he makes. This is referred to here as a part of the interpretation process.

A more detailed discussion of the unit act is appropriate at this point. Whenever man receives a stimulus, he looks into his past experiences and asks himself what similar stimuli he has received or what similar problems he has encountered. In fact, it is doubtful that man will receive the stimulus unless he has had past experience with it, or a similar experience. Next, he asks himself how he had responded or acted in relation to these similar stimuli when he had encountered them in the past. This would apply to both ends and means. He recalls his evaluation of his actions, and whether he was satisfied or dissatisfied with the outcome of his actions.

Man relates his past to the future by asking himself if he wants the same outcomes or goals now as he did when he responded to the similar stimuli in the past. If not, what different goal(s) does he want to attain or consider? He projects to the future to determine if the same alternative means that were open to him in the past are still available. Are there more efficacious means now available? Only after he has considered his relevant past experiences and his projections of the future does he choose an alternative (end and mean) which best suits his values.

## Role of Stimuli

The personality of man is molded by the series of events which are a part of his experience world. When he receives a similar stimulus repeatedly and each time responds in a similar manner which gives him satisfaction, the interpretation moves from the intricate level discussed above to a cursory recognition that the stimulus is a familiar one. When this takes place, an individual has formed a "habit" — a convention by which he copes with relatively similar and familiar stimuli with a minimum of intellectual effort. This allows an individual to do many routine things very quickly, and to utilize time for interpretation of new or relatively unique stimuli. When an individual develops a habitual way of dealing with a recurrent stimulus or pattern of stimuli, he frequently neglects to note that at each recurrence the stimulus and/or circumstances surrounding it have changed slightly so that over a period of time he is responding to a stimulus pattern that has been so altered from the original that his habituated response is completely nonrational.

Because man can deal with symbols which have empirical referents without being within sensory proximity of these referents, his experience world consists of not only those experiences in which he was an active participant, but also the experiences of other men which took place at other times and in other places. To the scholar who makes the most of this, the accrued experiences of all civilized mankind are available for use in making decisions. Since most of these accrued learnings are in the form of the written word, the semi-literate or illiterate have available to them only those experiences in which they have personally participated or of which they have heard.

However, each man builds up his experience world and makes judgments about each of these experiences as he has them. He evaluates them in terms of the relative satisfactions gained. He judges them to be good, bad, or indifferent. The patterning of these judgments about past experiences forms what is known as an individual's value system. The individual's value system provides him with a set of tendencies to act in relation to stimuli which he receives. These tendencies to act are commonly referred to as attitudes. Since man is not a Univac, he often holds conflicting attitudes without any seriously deleterious mental consequences. In many cases man segments his attitude structure — he acts rationally within a given segment of his attitude structure, but the action may be in competition or conflict with another segment of his attitude structure. In some cases man has a poorly integrated total attitude structure. As man receives a stimulus and contemplates his response to it, he takes into consideration both the ends or outcomes which he most favors and the means or methods of attainment which are most acceptable to him.

Part of man's value system is the tendency to organize both ends and means into more or less organized hierarchies on the basis of favorableness and acceptability to himself as an individual. He may

place these in juxtaposition when making his choices of alternatives. In this process, a lower level or less favorable goal may be selected because the means of attaining the more favorable goal was too unsatisfactory to accept. When a given goal exists with alternative means of attaining it, man inevitably (unless he is mentally ill) chooses the means which he considers most satisfactory for himself. But, of course, the amount of knowledge, as well as values and attitudes, will determine even the alternatives considered in making decisions.

At any point in time when an individual who is farming faces the problem of attaining a certain economic goal, he must (because he is a human being) go through the processes described above. When he considers or interprets the situation, he brings to bear his value system and the resultant attitudes he has toward credit use — frequently referred to by him as “going in debt” (which is an insight in itself) — and all of the past experiences he has had with credit use. The experiences which are known through active personal involvement or by vicarious means may be very limited, but limited or not, these provide the framework out of which the farm manager projects the alternatives which are considered to be available to him (cf. Chapters 14 and 21 for application to economic situations).

#### Values and Attitudes

Within this basic context of how man thinks, there are many specific concepts from the fields of sociology and social psychology that are of value in better understanding how man forms and acts in relation to his value system. Several concepts are presented here for illustration of this point.<sup>3</sup>

Attitudes flow from a value system which is built up from accretion of judgments made about past experiences. Man's world tends to become meaningful and organized in part through repetition of experiences with the same outcomes. After similar experiences with the same concept again and again, the individual comes to expect the same results. He perceives those parts of present experiences that resemble the past. This is known as selective perception. This often leads to canalization. The range of potential actions that are perceived to be satisfactory becomes more and more narrow. It is found in advertising research that individuals are far more amenable to having their existing needs implemented than they are to developing entirely new needs. Advertising (and education?) is typically directed toward the canalizing of preexisting behavior patterns or attitudes.

The first perceptual contact and reaction to a new stimulus (primacy) is often deeply embedded in the value structure — in a sense it is

<sup>3</sup> For additional clarification of the concepts, see Eugene H. Hartley and Ruth E. Hartley, *Fundamentals of Social Psychology*, Alfred A. Knopf, Inc., New York, 1955, pp. 233-49; Wilbur Schramm, *Process and Effects of Mass Communication*, University of Illinois Press, Urbana, Ill., 1955, pp. 289-320.

integrated into the value structure, and once there, must be "dislodged" if a change is brought about in attitude. The recency of experience seems to be important, since there appears to be less distortion in recall of the experience and the judgment made of the experience if the experience were recent. Another factor that is important in embedding an experience in the value structure is the intensity of the experience. Thus, an experience dealing with credit that is perceived as a crisis with much emotional involvement may lead to an embedding of an attitude toward credit that will be difficult to change. Another social-psychological concept that may have importance in the study of attitudes toward farm use of credit is "transfer." It has been found that a given response originally aroused by one stimulus can in time be aroused by a large number of other stimuli which may bear little resemblance to the original stimulus, but which are connected to it by association in time or space, or in some other way in the individual's experience field. Thus, one early bad experience with a particular borrowing of money can be transferred to all forms of credit by association.

Any given attitude held by an individual has four major dimensions:<sup>4</sup>

× Direction — for or against, positive or negative, support or rejection of a given concept or stimulus — person, group, process, institution, issue, etc.

Degree — variation in direction; for example, very favorable, favorable, about 50-50, unfavorable, very unfavorable.

Intensity — degree of conviction with which an attitude is held.

Saliency — position of specific attitude within individual's constellation or structure of attitudes — central, core, basic, or peripheral.

Man acts partially in terms of his referents and reference groups. These are the groups with whose norms he believes he should comply (usually groups of which he is a member) or those with whom he compares himself. Thus, in making decisions regarding credit he may ask himself if this type of credit or amount of credit is within the expectation of the group for its members. Or, if he aspires to be "like" or be accepted as a member of a given reference group, he asks himself if a given type of credit behavior is acceptable in those groups. Likewise, man thinks in terms of individual referents. A given farmer may not seek a given type of credit from an important referent, e.g., a banker, because of his perception of a negative attitude by the banker. In this case, the banker is a significant other to him. The broad framework of how man thinks and acts, as well as the specific concepts, some of which were given above, appears to be a valuable analytical tool in studying the nature of credit use by farmers. The major problem is setting up general theory models and workable concepts for empirical hypothesis testing. The above given framework and sociological and social-psychological concepts have been of great value in attitudinal research. Since very little of this type of research by the authors has

<sup>4</sup> Additional discussion may be found in Hartley and Hartley, *op. cit.*, pp. 665-74.

dealt with credit per se, most of the concepts are not directly applied to the use of credit in this chapter. However, a number of findings that may be logically related to credit use by farmers are presented below. In addition, selected findings from studies related to credit use conducted by other research workers are utilized in the following discussion.

One of the problems in doing research in the area of values and attitudes is stating precisely the level of the attitudes being measured. In Chapter 19, Johnson and Zerby present their definitions of instrumental values (a concept of what ought to be, where the "ought" is derived from a more basic value) and basic values (a more basic value for which instrumental values are actualized).

It is not inconsistent with this conceptualization to speak of values on a continuum from general to specific. For instance, farmers' attitudes toward the role of science in farming may be conceptualized as being at an intermediate level of generality. Below this level of generality one might expect to find many more specific values and attitudes toward the use of science in specific aspects of farming. The farmer who has a high-level orientation toward science in farming might be expected to believe that the use of scientific information and methods in farming is a necessity. This type of farmer would be rational in his decision-making process, i.e., seeking out all available scientific information, considering all alternative available inputs. He would be more ends oriented than means oriented. One might infer that this type of farmer would most likely consider the optimum use of credit as a means to an end.

The Iowa State University rural sociology team has developed a scale that attempts to measure this attitudinal pattern orientation toward the use of science in agriculture. Starting with 42 items, this scale has been reduced to 6 items with a Guttman coefficient of reproducibility of 0.91.

The attitude toward scientific agriculture correlates significantly with such items as: education, farm size, extra-locality orientation, categories of agricultural chemicals used, agricultural chemical expenditures, expenditures for fertilizer, perceived importance of fertilizer to farm income, fertilizer knowledge and risk preference (willingness to take risk). Limited analysis indicates that a number of specific attitudes and actions can be at least partially predicted by this general attitudinal pattern toward the importance of science in agriculture.

As the farmer faces the problem of making and carrying out decisions, he is confronted with risk and uncertainty. He has a general attitude toward risk-taking. Within this general attitude framework, the farmer has specific attitudes toward certain ends and means available to him, including attitudes toward credit.

A 10-item risk preference scale has been developed and used in field research. The most negative attitude toward risk would have scored 10, and the most positive attitude would have scored 50. The

scores actually ranged from 16 to 41, with an average for the Iowa statewide sample amounting to 27.2. The greatest concentration of scores was near the lowest end of the scale, viz., greatest aversion to risk.

The research worker is faced with a dilemma when he attempts to impute causality to relationships found between risk-taking and credit use, and other factors. Certain variables are found to be significantly related and have predictive qualities. There may be logically hypothesized causal relationships. Cause and effect are difficult to establish quantitatively. However, from the point of view of action orientation, certain cause and effect relationships are often assumed and, in fact, must be assumed in information and education programs. It often appears that changing one variable often brings about a change in another variable. Because of the great number of intervening and related variables that may be involved in the change process, it is often difficult or impossible to attach direct causality or at best to determine the actual degree of causality of a single variable. However, a number of significant relationships are found between risk preference and other variables.

The size of the farm operation, as measured by number of crop acres, has a significant positive relationship to risk preference (willingness to take risk as measured by the risk preference scale). It is difficult to construct a logic of causality between these two variables. It may be hypothesized indirectly that the farmer has a larger number of crop acres because he has been willing to take some risks. Conversely, it might be hypothesized that the larger equity in the form of land makes it more tenable for him to take risks because he has a larger equity from which to operate. There may well be an interaction between these variables. A similar argument may be made in relation to the highly significant positive relationship between gross income and risk preference. A significant difference of risk preference is also found among renters, renter-owners, and owners. Renters have a higher risk preference score.

### Risk Preference and Other Attitudinal Variables

There are significant interrelationships between risk preference and other attitudinal variables. There is a significant positive relationship between willingness to take risks and the attitudes of farmers toward the importance of science and modern technology in present-day farming. There are also significant positive relationships between risk preference and how important a farmer thinks the use of fertilizer and other agricultural chemicals is in achieving a desired level of farm income.

Other inferences can be drawn from the highly positive significant relationships between positive attitudes toward taking risks and the actual expenditures for fertilizer and agricultural chemicals. The fact



that farmers have a "self image" of themselves in relation to other farmers as far as willingness to take risks is shown by an individual item analysis. The following is one of the items in the scale, and responses made to it:

I regard myself as the kind of person who is willing to take a few more risks than the average farmer.

Strongly agree	5%
Agree	33%
Undecided	12%
Disagree	47%
Strongly disagree	3%

The majority of those who gave direct answers (either agree or disagree) believed they were less willing to take risks than the average farmer. It may be hypothesized that these answers represent the effect of reference groups on credit use.

Insight may be gained into attitudes toward risk by the answers obtained to the following statement:

A reliable criticism of many farmers these days is that they have forgotten how to play it safe.

Strongly agree	5%
Agree	50%
Undecided	12%
Disagree	31%
Strongly disagree	2%

This question allowed each respondent to set his own framework of what it means to "play it safe." It may be noted that the majority of farmers (55 percent) agreed that many farmers have forgotten how to play it safe. On the other hand, 33 percent disagreed with the statement. The remaining 12 percent were undecided. Thus, one might infer that there are a majority of farmers who think many farmers of today are too willing to take risks, viz., a negative attitude toward taking risks. An additional measure was attempted on the perception of how far farmers must sometimes go in taking risks.

The statement: If a farmer is to get ahead in life, sometimes he must be willing to gamble on all or nothing at all.

Strongly agree	6%
Agree	30%
Undecided	7%
Disagree	44%
Strongly disagree	13%

That new modern technology is perceived as being an important risk and uncertainty factor in present-day farming is indicated in the following data:

There is a large amount of risk or uncertainty that goes along with the results from the use of any new farming technique.

Strongly agree	6%
Agree	64%
Undecided	7%
Disagree	22%
Strongly disagree	1%

Since use of credit involves either a risk or an uncertainty, depending upon the type of use and level of knowledge of the individual, an examination of farmers' attitudes toward risk-taking may provide some insight regarding the existing use patterns. A study of a group of 120 farmers in south central Iowa revealed that 70 percent of the respondents had an aversion to risk-taking as indicated by their responses to a hypothetical situation.<sup>5</sup>

The respondents were asked, "If you had the choice of making \$1,000 now or the possibility of making either \$500 or \$1,500 in the future, which choice would you take?" Over 70 percent chose the \$1,000. There were highly significant relationships between the choices and the respondents' knowledge of fertilizer and fertilizer use, as well as the amounts of fertilizer used. Those who "played it safe" knew less and used less. In another phase of this TVA cooperative research study, the results of data secured from a sample of 315 farmers indicated that willingness to take risks was positively correlated to their attitudes toward scientific agriculture, their attitudes toward the importance of fertilizer use, and their attitudes toward the risks involved in farming. Also, their willingness to take risks was related to amounts and expenditures for both fertilizer and agricultural chemicals.

A second item regarding credit was also included in this study:

A farmer can borrow \$500 to purchase a new piece of farm equipment that can make him an average profit within the year; he should borrow the money.

Strongly agree	10%
Agree	72%
Undecided	11%
Disagree	6%
Strongly disagree	1%

Within a farmer's general attitude pattern toward risk-taking, he has an attitude toward credit, and even more specifically, differential attitudes toward credit for different purposes. The fact that there may be a favorable attitude toward credit for farm machinery is suggested

<sup>5</sup> Joe M. Bohlen, George M. Beal, and Larry Campbell, Analysis of Some Characteristics of Individuals Using Soil Testing as the Result of a Promotional Program, Rural Sociology Report No. 9, Aug., 1959. Cooperative project with Tennessee Valley Authority, ISU Agr. Exp. Sta. Project 1352. This research was conducted under TVA Project Authorization 1096.

in the above findings. Bivens found that 25 percent of a central Iowa sample of farmers who were using production credit were using credit for farm machinery and equipment.<sup>6</sup> Venezian found that those farmers who had a high willingness to assume risk (willingness is based on scores from a scale which had been developed to indicate high, medium, and low willingness to assume risk) were the ones who actually had the most credit outstanding.<sup>7</sup>

Bivens also found that the general attitudes toward debt contained a high degree of risk aversion. He used a series of statements to which his respondents could react on a 5-point continuum ranging from definitely agreeing to definitely disagreeing with the statements. Some of the basic values which provide the background of the attitudes toward credit are obvious in the range of replies to these statements. One statement was, "It is desirable for every farm family to get out of debt as soon as possible." Almost 90 percent of the respondents "definitely agreed" with the statement, and another 9 percent "agreed somewhat" with it. Only 1 percent "disagreed somewhat" with it. This type of response implies a basic fear of being in debt which may limit an economical use of credit as a management resource.

Previous work by the authors and others has indicated that there is a significant negative relationship between high value on land ownership and willingness to take risks of another type, i.e., adoption of new farm practices. Bivens found that there were strong attitudes toward land ownership in his sample of farmers. This finding is consistent with practically every other research study that has attempted to measure this attitude.<sup>8</sup>

Some of the data, as yet unpublished, from the research project used by Venezian for his thesis provide further insight into this attitudinal structure.<sup>9</sup> One of the statements to which the respondents could react as stated above was, "Farm families would do well to wait until they have accumulated their own money rather than borrow money for farm production purposes."

As pointed out earlier in this chapter, individuals consider the ends and choose the means in relation to themselves. The evidence in the area of credit and credit use supports the hypothesis that if an end is desirable enough, an individual will use a means which may be disliked to attain it. Thus, the type of goal which would be accomplished by the use of credit might temper its use. In Venezian's study, an effort was made to get a ranking of farmers' goals. He found that the most frequently mentioned goals of farm people were closely oriented to the farm itself, and to security.<sup>10</sup>

<sup>6</sup> Gordon E. Bivens, "From household interdependence and other factors in relation to use of credit by farm families in Greene County, Iowa." Unpublished Ph.D. thesis, Iowa State University, Ames, Iowa, 1957.

<sup>7</sup> Eduardo L. Venezian, "Use of production credit by farm families." Unpublished M.S. thesis, Iowa State University, Ames, Iowa, 1959.

<sup>8</sup> Bivens, *op. cit.*

<sup>9</sup> ISU Agr. Exp. Sta. Project 1349.

<sup>10</sup> Venezian, *op. cit.*, p. 54.

Sometimes an individual finds the only means of attaining a goal so unacceptable that he will substitute a lesser goal. The evidence that a large proportion of the farmers in Bivens's study thought it was better to buy a smaller farm and have less debt is a reflection of this phenomenon. It may be that some of the part-time farming that is rapidly increasing may be of the same nature. Some of these farmers prefer to supplement their incomes with off-farm jobs rather than assume the risk of borrowing to increase their farm size to a more nearly optimum unit.

Production credit is used next to most frequently, and consumer credit is used least frequently. Bivens found that there was a difference in the use of credit by specific production items.<sup>11</sup> Over 41 percent were using credit to purchase oil and gas, 34 percent to purchase feed, 30 percent to purchase livestock, 26 percent to purchase seed, 25 percent for equipment maintenance, 22 percent for new machinery, and only 17 percent for fertilizer and lime. Only two items of farm production had lower credit use than fertilizer: repair on buildings, 5 percent; and fencing and tiling, 2 percent. This differential use within categories was also found in the area of consumer credit.

Individuals often hold conflicting values which they do not recognize. Some results of research in values indicate that once a basic value system is determined, it is very difficult — if not impossible — to change that value structure. The most that can be hoped for is to suppress a value in rational decision-making. It is also a well-known fact that one of the difficulties in measuring values and attitudes is that people often have "private" and "public" value and attitude systems. They may be quite conscious that their values do not conform to the generally accepted norm, and in overt expression through statements or actions they attempt to purvey the "publicly" accepted value.

Past research has demonstrated that various attitudinal concepts can be operationalized, measured empirically, and relationships determined. Only limited research has studied the use of credit as the dependent variable. However, the limited evidence presented leads one to conclude that the study of the use of credit using sociological and social-psychological theory, concepts, and methodology should be a fruitful area of research that could give some significant answers to questions involving the "why" of the use or lack of use of credit by farmers.

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<sup>11</sup> Bivens, *op. cit.*