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MISTAKES AT WORK*

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THE COMPARATIVE STUDENT of man's work learns about doctors by studying plumbers; and about prostitutes by studying psychiatrists. This is not to suggest any degree of similarity greater than chance expectation between the members of these pairs, but simply to indicate that the student starts with the assumption that all kinds of work belong in the same series, regardless of their places in prestige or ethical ratings. In order to learn, however, one must find a frame of reference applicable to all cases without regard to such ratings. To this end, we seek for the common themes in human work. One such theme is that of routine and emergency. By this I mean that one man's routine of work is made up of the emergencies of other people. In this respect, the pairs of occupations named above do perhaps have some rather close similarities. Both the physician and the plumber do practice esoteric techniques for the benefit of people in distress. The psychiatrist and the prostitute must both take care not to become too personally involved with clients who come to them with rather intimate problems. I believe that in the study of work, as in that of other human activities and institutions, progress is apt to be commensurate with our ability to draw a wide range of pertinent cases into view. The wider the range, the more we are forced to find a fundamental frame of reference.

Another theme in human work is the problem of mistakes and failures. It, too, is found in all occupations. The more times per day a man does a given operation, the greater his chance of doing it wrong sometimes. True, his skill may become so great that his percentage of errors is nearly zero. It is common talk in the medical profession that certain surgical operations really ought not to be done at all, except *in extremis*, by men who do not have the opportunity to do them literally by the hundreds every year. In a large and favourably known hospital, the interns and residents—who are there to learn by practice—complain that the leading members of the surgical staff take all the interesting cases, not merely out of charity, but to keep their level of skill up to the point of least risk for the few patients who can pay a really high fee. This reduces the opportunities of the interns and residents to acquire skill. One may speak of a calculus of the probability of making mistakes, in which the variables are skill and frequency of performance. It is obvious that there are many possibilities. One who never performs a given action will never do it wrong. But one who has never tried it could not do it right if he were on some occasion compelled to try. This is the position of the layman with reference to many skills. Some skills require more repetition than others for the original learning and for maintenance. In some, even the most proficient make many failures, while in others the top level of skill is close to perfection. Occupations, considered as bundles of skills, are subject to the contingencies contained in all combinations of these factors of learning and of maintaining skill,

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and, correlatively, subject to variations in the probability that one will sometimes make mistakes. These are matters in which experimental and vocational psychologists are much interested and on which they are doing significant work.

But there are other factors in this problem of mistakes and failures. Some mistakes are more fateful than others, either for the person who makes them, for his colleagues, or for the persons upon whom the mistakes are made. Those who train students for research which requires receiving the confidences of living people and getting and keeping entrée to groups and institutions of various sorts are aware of this problem. (We are at present working on a project to discover how to train students to a high level of skill in social observation with the least risk of damage to all concerned.) In occupations in which mistakes are fateful and in which repetition on living or valuable material is necessary to learn the skills, it is obvious that there is a special set of problems of apprenticeship and of access to the situations in which the learning may be done. Later on, when the neophyte is at his work, there arises the problem of his seeming always to have known how, since the very appearance of being a learner is frightening. At any rate, there are psychological, physical, social, and economic risks in learning and doing one's work. And since the theoretical probability of making an error some day is increased by the very frequency of the operations by which one makes one's living, it becomes natural to build up some rationale to carry one through. It is also to be expected that those who are subject to the same work risks will compose a collective rationale which they whistle to one another to keep up their courage, and that they will build up collective defences against the lay world. These rationales and defences contain a logic that is somewhat like that of insurance, in that they tend to spread the risk psychologically (by saying that it might happen to anyone), morally, and financially. A study of these risk-spreading devices is an essential part of comparative study of occupations. They have a counterpart in the devices which the individual finds for shifting some of the sense of guilt from his own shoulders to those of the larger company of his colleagues. Perhaps this is the basis of the strong identification with colleagues in work in which mistakes are fateful, and in which even long training and a sense of high calling do not prevent errors.

Now let us approach the subject from the side of the person who, since he receives the services, will suffer from the mistakes when they are made. In a certain sense, we actually hire people to make our mistakes for us. The division of labour in society is not merely, as is often suggested, technical. It is also psychological and moral. We delegate certain things to other people, not merely because we cannot do them, but because we do not wish to run the risk of error. The guilt of failure would be too great. Perhaps one reason why physicians do work gratis for each other's families is to keep completely free from the economic necessity of treating people with whom they are so closely involved that mistakes would be too hard to face.

Sometimes a person requires an assurance that can be had only by being in a strictly lay frame of mind. Belief in the charism of skill is a lay, rather than a professional, attitude. The professional attitude is essentially statistical; it deals in probabilities. But there are matters about which we prefer to think

in absolutes. In dealing with such matters we delegate the relative way of thinking to another, who becomes our agent. He runs our risks for us. We like to believe him endowed with charism. One of my students, Mr. Ray Gold, who is studying some of the building trades, finds that the housewife likes to believe that the plumber she calls in is perfect, not merely *relatively* good. He keeps the mysterious entrails of her precious house in order. How much more does one want to believe absolutely in one's dentist, lawyer, physician, and priest. (There are of course other non-technical factors involved in delegation of tasks. Some work is *infra dignitate*. Some is necessary, but shady, or forbidden by one's particular taboos and aversions.)

Now this does not mean that the person who delegates work, and hence, risk, will calmly accept the mistakes which are made upon him, his family, or his property. He is quick to accuse; and if people are in this respect as psychiatrists say they are in others, the more determined they are to escape responsibility, the quicker they may be to accuse others for real or supposed mistakes.

In fact, I suppose that we all suspect just a little the objectivity of those to whom we delegate the more fateful of our problems. We suspect them for that very experimental spirit which we know is, in some degree, necessary to hardy and progressive skill in meeting our crises. Thus there is probably always some ambivalence in our feelings towards the people whom we hire to make our mistakes, or at least to run the risk of making them. The whole problem or set of problems involved in delegating work—and risks—to others is one on which there is not much to be found in the anthropological, sociological, or psychological literature. For each occupation that one studies one should, I believe, seek to determine just what it is that is delegated to the persons in the occupation and what are the attitudes and feelings involved on both sides.

We now have before us the problem and the characters. The characters are the people who, because they do something often and for others, run the risk of making mistakes and of causing injury; and those other people who, for technical, economic, psychological, moral, or status reasons, delegate some of their tasks and problems to others and who therefore may have mistakes made upon them and at their own expense. These are not really two kinds of people, but are the same people in different roles. The relation of these two roles is part of the personal adjustment of everyone who works. The problem is the reduction and absorption of the risk of failure on both sides, and of the kinds of conflicts within and between persons, which arise from the risk of error, mistakes, and failures.

As soon as we go into these problems we are faced with another: that of defining what a failure or mistake is in any given line of work or in a given work operation. This leads to still another, which turns out to be the significant one for the social drama of work: Who has the right to say what a mistake or a failure is? The findings on this point are fairly clear; a colleague-group (the people who consider themselves subject to the same work risks) will stubbornly defend its own right to define mistakes, and to say in the given case whether one has been made.¹ Mr. Howard Becker has found that pro-

¹The colleague-group does not in all cases succeed in getting and keeping this right. Perhaps they do not always want the full responsibility of convicting one another of error

professional jazz musicians will do considerable injury to themselves rather than let any layman, even the one who is paying their wages, say that a musician is playing badly or even that he has struck the wrong note. An orchestra leader who would even relay a layman's complaint to a member of his band would be thought already on the road to becoming a "square," one of those outsiders who do not understand about jazz music. Now you may say that jazz music is so lacking in any canons of correctness that there is no such thing as a single false note within the larger noise. It is all a matter of individual opinion. There is no clear and objective standard by which a judgment can be made.

But how clear is it in other lines of work? When one starts comparing occupations in this regard one finds that in most of them it is very difficult to establish criteria of success or failure, and of mistakes as against proper execution of work. The cases where all parties to the work drama would agree are few indeed. In factories which make precision parts the criteria are finely measured tolerances, but usually there is an informally agreed upon set of tolerances which are slightly looser than those in the book. Workmen and inspectors are continually at odds over the difference, even when the workmen want the parts they make to be workable. This is a case of the clearest kind of criterion. In medicine the criteria of success and failure are often far from clear. Dr. Bruno Bettelheim recently stated that psycho-therapists do not discuss together their successes and failures because there are no standards to go by; that is why, he said, they spend so much time discussing the academic question of whether their historical reconstructions of the troubles of their patients are correct or not. Health is, after all, a relative matter. Most people are interested in making the old body do as long as possible; this makes medicine quite a different matter from the automobile industry (where the garage man makes his work easier by persuading you the old car isn't worth mending).

Even where the standards may be a little clearer than in medicine and education, the people who work and those who receive the product as goods or services will have quite different degrees and kinds of knowledge of the probabilities and contingencies involved. The colleague-group will consider that it alone fully understands the technical contingencies, and that it should therefore be given the sole right to say when a mistake has been made. The layman, they may contend, cannot even at best fully understand the contingencies. This attitude may be extended to complete silence concerning mistakes of a member of the colleague-group, because the very discussion before a larger audience may imply the right of the layman to make a judgment; and it is the *right* to make the judgment that is most jealously guarded.

In some occupations it is assumed that anyone on the inside will know by subtle gestures when his colleagues believe a mistake has been made. Full membership in the colleague-group is not attained until these gestures and their meaning are known. When they are known, there need not be conscious and overt discussion of certain errors even within the colleague-group. And when some incident makes an alleged failure or mistake a matter of public

and of applying sanctions. It would be more correct to say that a kind of jurisprudence of mistakes is an essential part of the study of any occupation. Professor Norman Ward has suggested that a study of the official *error* in baseball would throw light on the processes involved.

discussion, it is perhaps the feeling that outsiders will never understand the full context of risk and contingency that makes colleagues so tight-lipped. And if matters have gone to such a point that mistakes and failures are not freely discussed even within the trusted in-group, public discussion may be doubly feared; for in addition to questioning the prerogative of in-group judgment, the outside inquisitor lifts the veil from the group's own hidden anxieties, the things colleagues do not talk about even among themselves. This may be the source of the rather nervous behaviour of school teachers when my colleagues and I report to them—at their own request—some of the things we are finding out about them.

One of the differences between lay and professional thinking concerning mistakes is that to the layman the technique of the occupation should be pure instrument, pure means to an end, while to the people who practise it, every occupation tends to become an art. The *American Journal of Sociology* will soon publish a paper in which David Riesman, who was once a secretary to Justice Brandeis, and an assistant in the office of the District Attorney of New York, tells of the wonderful briefs which young lawyers draw up for presentation to lower court judges who can scarcely read them, much less judge the law that is in them. The ritual of looking up all the past cases, and the art of arguing out all possibilities are gone through, even when the lawyer knows that the decision will be made upon a much simpler—perhaps also a much sounder—basis. What is more: the ritual and the art are respected, and the men who perform them with brilliance and finesse are admired. The simple client may be dazzled, but at some point he is also likely to think that he is being done by the whole guild of lawyers, including his own, the opposing counsel, and the court. In a sense, the art and cult of the law are being maintained at his expense. The legal profession believes, in some measure, in the cult of the law. The individual case is thought of not merely as something to be decided, but as part of the stream of observance of the cult of the law.

And here we come to the deeper point of Dr. Bettelheim's remark concerning his own colleagues, the psycho-therapists. A part of their art is the reconstruction of the history of the patient's illness. This may have some instrumental value, but the value put upon it by the practitioners is of another order. The psycho-therapists, perhaps just because the standards of cure are so uncertain, apparently find reassurance in being adept at their art of reconstruction (no doubt accompanied by faith that skill in the art will accrue to the good of patients in the long run).

Another example of these ways of thinking is to be found in social work. This profession is said to make a distinction between successful and professional handling of a case. The layman thinks of success as getting the person back on his feet, or out of his trouble. The social worker has to think of correct procedure, of law, of precedent, of the case as something which leaves a record. She also appreciates skilful interviewing, and perhaps can chuckle over some case which was handled with subtlety and finish, although the person never got "well" (whatever that would be in social work).

In teaching, where ends are very ill defined—and consequently mistakes are equally so—where the lay world is quick to criticize and blame, correct

handling becomes ritual as much as or even more than an art. If a teacher can prove that he has followed the ritual, the blame is shifted from himself to the miserable child or student, the failure can be and is put upon them.

Ritual is also strongly developed in occupations where there are great unavoidable risks, as in medicine. In such occupations the ritual may, however, be stronger in the second and third ranks of the institutions in which the work is done. Thus, in medicine, the physician, who stands at the top of the hierarchy, takes the great and final risks of decision and action. These risks are delegated to him, and he is given moral and legal protection in taking them. But the pharmacist, who measures out the prescribed doses, and the nurse, who carries out the ordered treatment, are the great observers of ritual in medicine. Pharmacists are said often to become ritualistic wipers and polishers, flecking infinitely small grains of dust from scales on which they are only going to weigh out two pounds of Paris green. The ritualistic punctiliousness of nurses and pharmacists is a kind of built-in shock-absorber against the possible mistakes of the physician. Indeed, in dramatizing their work, these second-rank professions explicitly emphasize their role as saviours of both patient and physician from the errors of the latter. And here again we get a hint of what may be the deeper function of the art, cult, and ritual of various occupations. They may provide a set of emotional and even organizational checks and balances against both the subjective and the objective risks of the trade.

I suspect that it is a rare occupation whose practitioners develop no criteria of good work, and no concept of mistake or failure other than simply defined successful conclusion of the given case or task. Usually the professional judgment will contain explicit or implicit references to an art, a cult, and a ritual. The function of the art, cult, and ritual is not so much to bring the individual case to an early successful conclusion as to relate it to the on-going occupation itself, and to the social system in which the work is done. In most occupations, a man can be judged as quite wrong by his colleagues for an action which the lay client might consider very successful indeed. The quack, defined functionally and not in evaluative terms, is the man who continues through time to please his customers but not his colleagues. On the contrary, a man may be considered by his colleagues to have done a piece of work properly and without error, even when the client may accuse him of error, mistake, or failure.

In these remarks I have mentioned two concepts of great importance for study of the universal work drama. One is the concept of role; the other, that of social system. A person, asked what his work is, can answer in two ways. He can say *what* he does: I make beds, I plumb teeth. Or he can say *who* he is: I am the person who does so and so. In the latter case he is naming his role. A large part of the business of protecting one's self from the risks of one's own work mistakes lies in definition of role; and in some occupations, one of the rewards is definition of one's role in such a way as to show that one helps protect people from the mistakes of others. Now, roles imply a system of social arrangements. Most work is done in such systems. Part of the function of these systems is to delegate, to spread, or, in some cases, to con-

centrate, the risk and the guilt of mistakes; and also to spread and to allocate the losses which result from them. The details of these matters are better left until they have been worked out more fully.

This one example of sociological analysis prompts some remarks concerning the academic division of labour with reference to human work. In the historical and conventional division of academic labour, work has belonged to the economists, as do voters and kings to the political scientist, and fun and and vice to the sociologist. The historian handled anything which had been written down on paper or other material long enough ago for the author, his characters, and all the relatives of both to be so long dead that no one would bring a libel suit. Indeed, it was better if they were in danger of being forgotten, for the historian's fame depended on rediscovering them. But his mandate allowed him to tell all about his characters—their work, their politics, and their gambols. The anthropologist went about the earth on one-man expeditions discovering people who didn't write and hadn't been written about. Since he was alone in the field and since his reputation depended upon his being the first there, he looked at everything from hair texture and the shape of shin bones to religion, art, kinship, crime, and even the technique and organization of work, and the distribution of the products of labour.

Now the division of academic labour, like other human arrangements, is as much the result of social movements as of logic. Some persons in, or on the periphery of, academic life are seized, from time to time, with a new preoccupation. They pursue it and their successors nourish it. The third generation will have refined out of it some pure essence which will be called a social science; but they will not ordinarily have yielded to anyone else the original liquor from which their essence was distilled. Thus, the pure essence of economic reasoning was abstracted from preoccupation with all sorts of things having to do with the material and moral welfare of man, as may be seen in Adam Smith's *The Wealth of Nations*. Since the quantities which would appear in place of the letters in economic equations—if some economist were to be so impure as to make such a substitution—would include the price of the labour used in manufacturing and distributing those goods which are produced in sufficient quantities to fit the formulae, it is quite natural that work should have been one of the preoccupations of the economist. Indeed, it was natural that economists should extend their interest to whatever might affect the price and supply of labour: migration, the birth-rate, religion and philosophy, laws, trade unions, politics, and even mental and physical capacities, although the latter have become the psychologists' claim to entry into the factory. Economists have even been interested in those distractions from labour which have more lately been the concern of the sociologist, but which Daniel Defoe, who never heard of sociology, commented upon in *The True-Born Englishman*:

The lab'ring poor, in spight of double pay
Are sawcy, mutinous and beggarly
So lavish of their money and their time
That want of forecast is the nation's crime
Good drunken company is their delight
And what they get by day, they spend by night.

If the occupation of the economist be economic reasoning, in ever more sophisticated formulae, human work continues to be one of his *preoccupations*. And this illustrates the fate of each branch of social science; that while it refines and purifies its theoretical core, its logic, it can never free itself from the human mess. Wallowing there, each purist will find himself in the company of others who, although they seek to create a different pure product of logic, must extract it from this same mess. It might be of some use, in these days of the cult of collaboration between the social disciplines, for us to understand the social movements out of which the various social sciences have come, and the consequent development in each not merely of a central and distinguishing logic, but of a large periphery or halo of preoccupation with institutions and events. It is, I believe, treading upon a pre-empted area of events and institutions that brings accusation of academic trespass, rather than borrowing its fundamental logic. Thus a sociologist should stay out of factories because the economist was there first. The economist should stay out of the family. Neither of them should be caught in an insane asylum, which is the domain of psychiatrists.

But, to the extent that there is some logic in the academic division of labour, representatives of each discipline will be found studying not merely some one institution but any events which yield to effective analysis by their particular logic. Economics will cease to be merely—if it ever was—the science of markets; anthropology, of primitive peoples; education, of what happens in schools; sociology, of families, churches, playgrounds, settlement houses, and prisons.

Human work, including the institutions in which people work for a living, has become one of the lively frontiers on which social scientists meet. Without belabouring the point, I refer you to Mr. Bladen's presidential address of two years ago for an acute analysis of what is happening among economists, anthropologists, and sociologists on this frontier. Work, I submit, is in all human societies an object of moral rule, of social control in the broadest sense, and it is precisely all the processes involved in the definition and enforcement of moral rule that form the core problems of sociology.