

PSYCHISM AND CHANCE

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In the present work, which I would like to be considered as a mere essay, my intention is to show how the known facts of parapsychology lead us to a working hypothesis which seems to offer new insights into nothing less than the essence of psychism or the essence of life. I am quite aware that this is an ambitious purpose and that when one comes to proposing all-embracing views, the risk is great of losing one's grip on reality and merely playing with the docile wax of purely theoretical speculation. My hypothesis, however, is both philosophical *and* experimental: philosophical because it implies a particular vision of the relationship between psychism and the physical world, and experimental not only because it is based on facts, but also and especially because it suggests concrete new lines for research. In both directions, the consequences may be far-reaching, but this, of course, will depend on whether or not the experimental findings follow expectation. Let us now tackle the problem without losing sight of this commitment to ultimate practical efficiency.

SOME CHARACTERISTICS OF PSI EFFECTS

In the abundant record of well controlled field and laboratory parapsychological research we regularly observe the following:

(1) experiments which are meant to demonstrate psi effects but where no effect actually occurs, or where something does occur but with largely unpredictable efficiency; and spontaneous cases which are scarce, and almost always unexpected. Considering now only the actual psi effects, we further observe:

(2) mere wishes which have unmistakable orientation effects on on-going physical processes in the absence of all detectable means of influence, such as in PK experiments on rolling dice, for example;

(3) physical events which happen in overt violation of the laws of inertia and gravitation, such as when "causeless" moves of various objects occur in poltergeist disturbances, presumably linked with psy-

chological conflicts at an unconscious level in at least one of the concerned persons;

(4) subjective representations in one person which correctly reflect those of another person, in the absence of all possible sensory communication between them, as in spontaneous or experimental telepathic events. It was amply shown, however, that telepathic events can be accounted for in terms of either one or both of the next two types of psi effects, so that for simplicity's sake I shall not consider them separately in the rest of this work;

(5) subjective representations which correctly reflect objective data in the absence of all detectable sensory mediation, sometimes at very large distances and despite considerable material obstacles, such as in spontaneous or experimental clairvoyance;

(6) subjective representations which correctly reflect future objective events, such as in spontaneous or experimental precognition.

Summing up these first six characteristics of psi effects, we can say that psi effects are subject-object interactions which typically occur at rare and irregular intervals, and, quite unlike usual deterministic processes, occur independently from all known physical supports, and irrespective of the usual distance or time barriers.

But a full description of psi effects would not be complete without the following additional features:

(7) in laboratory PK results or in forced-choice ESP experiments, there is frequent evidence of time-dependent, reversed, or misplaced efficiency of psi transaction. By *time-dependent efficiency*, I mean an irregular rate of success of the subject throughout the experiment, which results in local or general position effects: decline or incline, U-curves, variance effects, etc. *Reversed efficiency* is psi-missing, where the outcome of the experiment is opposite to the subject's declared wish. *Misplaced efficiency* shows up when the subject for example systematically guesses one card ahead of that which is actually being presented—in other words, in displacement effects. These so-called "secondary" effects, position effects, psi-missing, displacement, are by no means the only ones that can occur, but merely those which were most often observed or looked for, until now at least. There is no theoretical limit to a systematic search which would aim at uncovering other, probably more intricate, secondary biases in experimental data. The important point here is that all the known secondary effects go along with strong suggestion that psychological factors in one or several participants may be responsible for such indirect or modified manifestations of psi: in position effects, the subject's oscillation between eagerness and fatigue; in psi-missing, the subject's under-

lying disbelief in psi phenomena at large; things are less clear perhaps in displacement effects, though they seem to be characteristic enough of some subjects at particular times, as was the case with Mrs. Stewart or with Shackleton in part of Soal's classical experiments. So the general implication here is that however disregarded, visibly or not, psychological factors regularly interfere with most laboratory psi tasks;

(8) the other additional feature is this: in many successful free-response ESP experiments and in many ESP spontaneous events as well, the "received" message does *not* convey the exact objective information contained in the target, but does convey one or several *meanings* attached to it, often through marked distortion or even complete substitution of information contents. One typical illustration of this may be given here, as the difference between information and meaning is essential and should be as clearly understood as possible. In the famous Biblical precognitive dream which warned ancient Egypt of seven oncoming years of abundance, to be then followed by seven years of drought, the years were actually not pictured as years but as fat or lean cows coming out of the Nile river. This may certainly be readily understood in terms of Egyptian life of those times, where the yearly flood of the Nile was the main determinant of the country's food supplies for the coming year. But reasoning like this amounts to saying that the target information—years of abundance and years of drought—was actually conveyed to the dreamer in the form of different, new information contents which simply had to be *meaningfully* related to the target. Thus, fat cows followed by lean cows *meant* plenty followed by shortage; cows regularly coming out of the river *meant* the yearly rhythm of the Nile's floods, etc. Clearly then the precognitive process in the dream was concerned with the meanings around the target information, *not* with that information as such, which nowhere shows up in the dream. Now, thoughtful examination of other spontaneous occurrences will show that this conclusion in fact holds for a great many cases; and further, that it is true not only in ESP but also in PK: in more than one poltergeist outbreak it is rather clear that the highly whimsical physical events are linked by an underlying meaningful purpose which each one of them expresses differently: demonstrating hostility to someone without having to feel responsible for it, for example.

These last two features—items (7) and (8)—which characterize psi effects in a more psychological perspective than the first six, may be summed up as follows: psi phenomena, when confined to limited targets, typically may be interfered with by psychological

traits in the participants, and, when freely occurring, typically convey meanings, not information as such. Both features, of course, are unknown in ordinary deterministic processes. These certainly do not depend on the observer's personality, mood or expectations, nor are they able to create *meaningful* information contents by themselves. Only a living individual can appreciate whether a given relationship is meaningful or not. A deterministic device such as a computer, for example, can certainly transform the incoming information content "fat cows on a river bank" into an outgoing content "years of abundance." This would not mean, however, that it is sensitive to the meaningful relationship which leads from the former to the latter, but only that it was rigidly programmed to do that particular task; certainly that would not render it able to give the new correct meaning of the same incoming information in another, quite different psi occurrence where it might possibly be offered.

In conclusion and to sum up the above considerations it can be said that psi effects present five main characteristics, of which the last four at least are distinctively non-deterministic, and which any fully comprehensive explanatory model must account for: (1) they are relatively scarce and unpredictable; (2) they occur in the absence of all known physical supports; (3) they are not limited by the usual time-space constraints; (4) they often are interfered with by psychological factors; (5) they convey meanings rather than information.

SOME CHARACTERISTICS OF PSYCHISM

I shall take the word "psychism" to designate that which conscious individuals generally perceive as being their inner—and not necessarily fully conscious—source of feelings, thoughts, imaginary representations, wishes, wills, memories, fears, interests, etc. These may be called "psychical contents" or "psychical activities." The word "psychological" is understood as referring to isolated and permanent enough psychical tendencies rather than to the total inner activity as such. Also, it must be clear that "psychical" does not have here the limiting sense of "pertaining to psychics or to psychic powers"—as in "psychical research"—but the most general sense of "pertaining to psychism." Note that "subjectivity" would be close to "psychism," but somewhat narrower, as it does not seem to allow for unconscious data. Also, there is no real objection to attributing psychism to animals, although whatever evidence may be produced in favor of the hypothesis necessarily is of a more indirect nature than with human beings.

Psychism characteristically tends to materialize its contents, or at least part of them, through bodily expression or action. As a matter of fact, the existence of psychism—at least outside the observer himself—is essentially inferred from such concrete manifestations as speech, mimicry, or material action. But even these are not proofs of psychical activity: a robot with a loudspeaker saying “I am sad,” would not really be sad; so, from a strictly physical point of view, an alleged psychical content as such is a void notion, or at best a risky bet. In fact, current scientific philosophy rests on the mostly implicit materialistic assumption that reality is that which can be described in terms of physical objects or processes, and consequently that psychical contents and psychism as such may not be granted the status of real data, precisely because they cannot be so described. Logically, then, anything psychical tends to be considered as the mere epiphenomenon of an underlying purely objective and deterministic interaction which alone is “real,” presumably one of the numerous physiological processes that are going on in the human body and especially in the brain.

Now, once again, deterministic interactions typically have a physical support, are regularly replicable, occur within precise time and space limitations, and are insensitive to whatever meanings they may be loaded with from the witnesses' standpoint. They process information, not meanings. We must then ask: to what extent does psychical activity actually bear the mark of the deterministic process which supposedly underlies it? Although brain activity, of course, does have a physical support, it is difficult to tell whether psychical activity *as such* has one, as it certainly cannot be equated to brain activity. Now, is it replicable, that is, do we have exactly the same feelings, or emotions, or memories when the circumstances are exactly the same? Here, too, it is rather difficult to answer, because circumstances never seem to be exactly the same in the psychical realm. The picture is clearer, however, as concerns the two other points: about time and space localization, we readily observe that although each psychically active subject necessarily is located somewhere in space and time, *what* he is feeling, or being impressed by, or imagining may actually be located *anywhere* in space or time: past, present, future, close or remote, physically accessible or not; or even, so it seems, in several time-space places at the same time; it may also—and this perhaps is the most frequent case—be rather difficult to localize at all. Thus, even if we remark that, in the particular case of ordinary perception and in concrete reasoning on present physical objects, psychical activity neatly complies with the usual time-space regulations, we must admit

that generally speaking it does *not* appear to be bound by such constraints. Now, as far as the meaning-vs.-information question is concerned, we remark this: efficient, rational reasoning operates much like a computer, in that it typically processes information without adding anything new to the initial data. We all more or less successfully learnt to do that in mathematics. But the very fact that we had to learn it, clearly enough indicates that psychical activity in general does not inherently comply with the rules of logical reasoning. Rather, it constantly tends to create new information, or at least to draw information from other sources, and to add to or mix with or even entirely substitute it for the original contents in the subject's psychism; and that adding, mixing or substituting occurs between contents which are in one way or another *meaningfully* related for the subject. A handful of cherries, for example, may make you remember cherry-picking parties in the family orchard, from where you go to cherry blossoms in the spring, which in turn make you think of flowers in general, etc. Clearly, each one of these successive information contents features elements which cannot be found in the others, and their association mainly rests on a common underlying meaning, something like the feeling that you have of the generosity of the vegetal realm. In a depressed subject on the contrary the cherries might recall spoilt fruit he saw in the market the same morning, hence various feelings of waste or frustration, which will in turn bring a money problem back to his mind, and so on. Quite obviously then, trying to explain psychical processes merely in terms of information contents and information processing would be utterly inadequate: the meaning in the information is the main factor, not the information itself.

Two points can be made here. The first one is that psychical activity as such definitely does *not* bear the mark of an assumedly underlying deterministic process. Rather, it appears to develop regardless of the usual rules of deterministic interactions, as it essentially is time-space independent and concerned with meanings, not information. Also, we readily remark—and this is the second point—that these two features of psychism were also mentioned in the previous section among the five main characteristics of psi effects. This evidently points to some close relationship between psi and psychism, which seems to mean that the search for a theoretical model for psi events implies tackling also *the general problem of the nature of psychism*. That things are actually so will clearly appear in the coming section.

THE PSYCHOPHYSICAL PROBLEM

If it is clear now that psychism may not reasonably be considered as a by-product of material processes, what is the exact nature of its

relationship to materiality? I suggest consideration of the following steps in reasoning:

(1) From the standpoint of objective experience the physical world is an irreducible datum and exists in its own right. Physical objects, as such, are unequivocally located in time and space and physical processes are information-conservative in the sense that they do not yield information which was not implied from the start in the initial data. At first sight, the whole spectrum of our experience of reality may be considered as resulting from one type or another of physical effect: different states of matter, particles, fields, etc. At one end of this spectrum of physical realities, life and psychism may appear—and this is the materialistic view—as the products of those particular physical arrangements or processes which are called the body, the nervous system, the senses, the physiological activity in the brain, etc. Yet, as we earlier saw, some, at least, of the characteristics of psychical activity are most difficult, if not impossible to account for in a purely physical perspective.

(2) Indeed, and now from the quite symmetrical standpoint of subjective experience, psychism too is an irreducible datum and exists in its own right. Psychical activity, as such, is in terms of meanings and for that reason features the constant creation of information, and it is not clearly localized in time and space. At first sight, the whole spectrum of our experience of reality could be considered as emanating from one mode or another of psychical activity: will, imagination, memory, etc. At one end of this spectrum of psychical realities, the material world may appear—and this was maintained by idealistic philosophy and especially its solipsistic variant—as the product of this particular psychical activity which is called perception. But here, again, we come up against the fact that some essential characteristics of physical processes are definitely not those of psychical activity in general.

(3) Now, since neither the basic experience of psychical life, nor that of the physical world can be denied, a comprehensive view necessarily must allow for both. Does this mean, however, that we should accept the Cartesian dualistic hypothesis of two independent substances: mind on the one hand, matter on the other hand? This would seem difficult to maintain, in view of the fact that no pure psychical activity was ever decisively proved to exist in the absence of a physical body, and that, conversely, a purely physical system would have no existence at all in the absence of at least one person—one psychism—to look at it or even only imagine it. In other words, to adopt the dualistic view would be to overlook the fact that mind and matter *never* are experienced separately. This fact is quite obvious in ordinary life, where the physical world constantly impinges on

psychical life through sensations and perceptions, while psychism continuously projects itself into the physical world, which it tends to modify or interfere with through speech, mimicry, or material action. The most reasonable stand in such a situation seems to grant *equal and symmetrical status* to psychical life and the physical world, and to admit that the body is the meeting point where both originate, or, in other words, where psychophysical interactions take place.

(4) This view has a number of consequences. The first one is straightforward: unlikely purely *physical* interactions, *psychophysical* interactions, as we just defined them, will necessarily be concerned with meanings. Such is indeed the case for all our perceptions and all our actions: even in their simplest form, our perceptions already are an interpretation of whatever physical reality triggers them. Red is not in nature; it is *our* interpretation of a specific electromagnetic wavelength, and our actions obviously interfere with the existing information contents in the physical world around us. The second consequence is double: first, from the standpoint of its information content and physical efficiency, a bodily-mediated psychophysical interaction necessarily is limited to the body's sensorimotor possibilities. Indeed, we do not perceive more than a given range of electromagnetic radiations or sound vibrations; and on the motor side, a given individual cannot develop more than his own maximum amount of physical skill or strength. And second, the localization in time and space of any bodily-mediated interaction necessarily is that of the physical body; it is a fact that all my perceptions are here and now, like my body, and that so are all my physical actions.

This being stated, a further and important consequence ensues. Assuming that any psychophysical interaction should happen to bypass the body's physiological equipment—namely the sensorimotor channels—then its load of meanings would no longer have to comply with bodily constraints as far as sensory ranges, skill or strength limitations, and being present in time and space are concerned. Consequently, the physical term of such a hypothetical interaction might very well be (1) off the normal sensory ranges—X-rays might be “seen” or ultra-sounds “heard,” (2) unattainable by ordinary bodily action—heavy objects might be easily “handled” and intricate material tasks correctly “performed,” or (3) located elsewhere in time and/or in space—past, future or remote events or objects might be “perceived” or “acted upon.”

Of course, what we are speaking about here is not merely hypothetical, it actually exists and is called psi phenomena. It does happen that remote objects or events are perceived, through clairvoyance,

or acted upon, through psychokinesis; that future or past events are precognized or retrocognized; and that difficult or even seemingly impossible tasks are nevertheless performed by poltergeists. Does it also happen that X-rays or ultra-sounds, for example, are directly perceived? Even if evidence could be found for this, however, it might not be easy to decide whether to invoke ordinary, though unusual, sensory abilities, or genuinely paranormal factors. This, perhaps, is why classical parapsychology does not seem to have dwelled much on the question. Let us also note, as a last remark here, that, in the present perspective, psychokinesis on *past* events does not appear less likely—all commonsense objections being put aside—than ordinary PK on present events, and that, precisely, two researchers recently obtained independent positive results in retroactive PK experiments (Janin 1975, Schmidt 1976).

Back, now, to the status of psi events. It appears that we can adopt the following definition: *psi events are normal psychophysical interactions, essentially similar to those which sensorimotor channels usually convey, but which in fact bypass these channels and thus escape the corresponding limitations.* It can be easily understood now that, in such interactions, the absence of all sensorimotor "centering" in time and space may accordingly allow for more diversified, intricate or interwoven psychical contents to manifest than in ordinary interactions which are linearly laid out in time and unequivocally localized in space. Hence, the typically meaning-concerned character of spontaneous psi phenomena as compared to ordinary perception or action; hence, also, the frequent interference of parasitic contents (such as those due to personality factors) in experiments where the psi task is deliberately confined to targets which are almost devoid of meaning—namely, in classical laboratory PK and in forced-choice ESP research.

A final and important consequence stems from our granting equal and symmetrical status to psychical activity and to physical objects or processes. In such a perspective it is self-contradictory to expect that a psychophysical interaction should be physically mediated, since it precisely constitutes *the original bond* at the ends of which a physical pole and a *non-physical* pole emerge. In other words—and this accounts for one more characteristic of psi effects—the question of the physical support of psychophysical interaction is *inherently irrelevant.*

Note that this last assertion holds for all psychophysical interactions in general, whether occurring through the body's sensorimotor channels, as most of the time in daily life, or outside these channels, as in psi effects. The fact that only psi effects and not the

sensorimotor events are usually felt to be question-raising, as far as the problem of the physical support is concerned, merely reflects the most widespread and deep-rooted opinion according to which ultimate reality, psychism included, is physical in essence. I certainly shall not pretend that the view I advocate instead is easy to accept or immediately answers all questions. What I do say, though, is that it is sounder to reason in terms of a single enigma in all psychophysical interactions—that is, in the whole of our experienced interchange with reality, with or without use of the bodily machinery—than to postulate that reality is but physical and, thus, to see no problem in that part of our experience which is bodily-mediated, but to be then faced in the other part, namely psi events, with a hopelessly intricate conundrum. Between a cosmic enigma and a riddle in a ghetto I prefer the cosmic enigma, because only at the level of that which is both universal and contradictory can we hope to find really general working models. Let us recall here that relativistic physics rests on a basic principle which acknowledges constant velocity for light in all systems of reference—an enigma by all daily life standards—or that wave mechanics acknowledges constant wave-particle association—an enigma from the standpoint of the common-sense basic difference between radiating energy and material bodies. These examples show us the way; because it appears that we may never ultimately succeed in reducing our experience of reality to terms of either psychism only or physical processes only, and because psychophysical interactions obviously exist, we have to acknowledge that a basic unity underlies the apparent duality or contradiction between psychological life and the physical world and warrants their permanent interplay, or in other words, that *reality is psychophysical in essence*.

This is nothing else than a possible basis for the solution to the age-old but still unsolved mind-matter problem. I am, naturally, aware that if the postulate should be proved reliable, the consequences would potentially be incalculable both for philosophy and for science, and I do not want to try to list them here even tentatively. Also, I believe that it could and should be expressed in various other ways and that more fundamental reflexion is needed for that. What I would simply like to do in the rest of this work is to show how we can immediately draw on it, first for shedding further light on what is not yet clear in psi phenomena, and then for suggesting new paths to experimentation.

THE DAEMON IN THE DIE

In the above section, four of the five main characteristics of psi effects were accounted for, namely lack of physical support, time-

space independence, concern with meanings, and proneness to being interfered with by psychological parasites. Thus, only the relative scarcity and unpredictability of psi still have to be dealt with; this will be one of the objectives of the present section.

The simplest limb motion when we decide to move, the quasi-immediate translation of mere representations into speech sounds, the ready deciphering of printed words into meanings, etc., are psychophysical interactions; so are psi effects. But what a difference between them! What an incredibly efficient psychophysical "machine" the human body appears to be, when one considers the ridiculously low and whimsical performances of the classical subject + die setting in PK trials, or even the more impressive, yet notoriously sporadic events produced by poltergeists! Certainly, scarcity and unpredictability do not apply to the psychophysical interactions between a subject and his own sensorimotor system. How can we account for that?

Such a huge discrepancy between two kinds of effects when the basic phenomenon is held to be the same must be meaningful, and I shall try to show how, using an apologue. Imagine a reduced-size, more or less human-like daemon sleeping inside a hollow die. Each time the die is being cast, the daemon instantaneously awakes and must decide which of the six faces shall be upward when the die comes to rest. Let us further assume that he is endowed with perfect or at least very good PK and ESP abilities: through ESP directed at the utilizers of the die he knows what face or faces are being wished for if any, and this may or may not influence his final decision. Then, through PK on the motion of the still rolling die, he very efficiently succeeds in enforcing that decision. Then he goes to sleep again.

Now for the human utilizer such a daemon-operated die is perfectly equivalent to a normal die, because (1) the daemon's unpredictable decisions account for the die's behavior in ordinary use, where it is a mere source of random events, and (2) in a PK setting, introducing the daemon amounts to relieving the utilizer from his direct responsibility in the actually obtained results and transferring it, unchanged, to the daemon. Where the subject tried, knowingly or not, to exert PK on the die and more or less succeeded, it is now the daemon who chooses to more or less comply with the subject's wish and exerts PK to bring about what he finally freely decided.

The interest of the apologue precisely lies in this sharing of responsibilities. In the classical situation, the subject was alone with his die, while in the daemon-in-the-die situation he has a partner, a vis-à-vis, a companion. In the former situation, the subject's drive was to achieve a good solitary performance by exerting a "force," it

was something like an athletic feat; whereas in the latter situation the accent no longer lays on force, but on the psychological factor, on dialogue: if the experiment turns out well, it means that for some reason the daemon decided to favor the subject's wish, for example, because he found he liked him, or because the subject succeeded in convincing him to do so. Now, if the experiment fails, in the solitary performance perspective all we can say is that the "psychic force" was not correctly applied; but as nobody can tell anything about this assumed "force" nor about how it should be correctly applied, nothing is learnt from the failure. Pushing in the dark on the wrong button doesn't tell anything as to *why* it was not the good one. In the daemon-in-the-die perspective, on the contrary, a failure of the experiment does tell something. It indicates that the subject did not please the daemon, or that no fruitful dialogue took place with him. Now, this *is* something to be pondered over by the thoughtful subject. Bettering one's general attitude, and one's aptitude to dialogue, is definitely possible. And, finally, just as scarcity and relative unpredictability of psi events have to remain basically unexplained in the classical subject + die setting, so they appear to be well enough accounted for when the die becomes daemon-inhabited. PK phenomena usually are scarce and relatively unpredictable, not just because things are so, but just to the extent that subjects in general rarely and irregularly happen to have the right inner attitude; that which is needed for at least some positive contact with the daemon.

Such a conclusion, it should be remarked, is consistent with the results of rather a large body of experimental work, mostly classical already, by various authors. It was regularly observed that such factors as one would, from the present perspective, expect to generally enhance communication and dialogue were more psi-conducive than the opposite factors with unfavorable conclusions. Let us quote the following: (1) a positive attitude toward psi, as opposed to a negative one: see in Palmer (1971) a good review of the research by Schmeidler and her followers on the sheep-goat effect. (2) The attractive character of the psi task, as opposed to its lack of attractiveness: see for example Freeman (1969) or Rao (1962). (3) A positive affective relationship, as opposed to a negative one, between the various participants in the psi test: see Anderson and White's classical classroom studies (1958), and also Fisk and West (1956), Rice and Townsend (1962), for example. (4) Extraversion, (5) low neuroticism, (6) expansiveness, as opposed to introversion, high neuroticism compressiveness: for a systematic study see Kanthamani and Rao (1971, 1972). (7) Various states of relaxation or hypnosis: see the works of

Casler, Braud, Honorton and others, the references of which can be found in (1976).

The objection that these studies were in fact mainly ESP, not PK research is a minor one here, as our daemon-in-the-die could easily be made into a daemon-in-the-cards—or, in whatever target is being used—with the same essential shift of accent as in the PK setting, from the idea of a particular “psychic force” in the subject to that of a particular subject-daemon relationship. I may therefore, consider that the experimental findings mentioned here support the general idea that success in psi experiments (whether ESP or PK) is a matter of readiness, in the subject, for direct or experimenter-mediated communication and exchange with his targets.

Yet, if some light is now shed on the possible reason why experimental psi effects are weak, namely because on the whole the needed “dialogue” is difficult to establish, it is still quite obscure why the efficiency of the mind-matter interaction within our bodies, or the allegoric PK powers of the daemon on his die, is so enormously greater and more reliable. Examples are available, however, of intermediate cases which may suggest an answer. It is generally thought that raising an arm at will is straightforward enough; certainly if it is *your* arm at your will. But what about somebody else’s arm at your will? Imagine a stranger standing by your side in the bus or on the train. You decide to try a mind-matter interaction experiment on him, and silently wish him to raise his arm; this is the classical “psychic force” model of PK trial. Statistically speaking, though, and even if you do have some PK “powers,” it is rather improbable that you would succeed. Remembering, then, the daemon apologue you realize that here, the daemon-in-his-die actually *is* this man-in-his-body, a “daemon” of a quite familiar kind to whom you can even physically speak, so that the conditions for an efficient dialogue are most favorable. So you speak to the man and tell him to raise his arm. But, as he does not know you and is not likely to immediately understand what your intentions are, he probably will not raise his arm, at least not right away. Now, of course, you may also have an inviting smile and a subtly imperious tone of voice, and the man himself may be naturally trustful, easily impressed by strangers or prone to joking, and so do what you asked him. Your experiment would then be a success. Such a situation, I would say, would be fairly similar to the subject-target relationship in any classical ESP or PK experiment. It is a temporary deal, where you succeed if you are good enough at public relations; hence, the utility of being at least momentarily positively concerned, outgoing, relaxed, etc., as was earlier noted.

But your story with the stranger-in-his-body can also be told in another way. The above type of instant relationship would presumably not prove to be very long-lasting. You couldn't reasonably expect a stranger to raise his arm upon request without any further explanation each time you would meet him on the bus or elsewhere; so did many initial successes in psi research inexorably taper off after a while. Things might be different, though, if the experiment took place in the context of a more gradually established, more personal, constantly renewed dialogue between you and the man about your purposes, his participation, your common interest in the success of the experiment, the general psychophysical problem, etc. After a sufficient time, you might finally induce him into a long, tight and fruitful cooperation with you, with probably many more regularly successful psychophysical interactions between you and him than mere arm-raising episodes. Note, that for arriving at such a result, if your having at least some positive interest in your undertaking still appears to be required, yet your being a tense introvert must not necessarily turn out to be an unfavorable factor.

So we come now to the second teaching in our apologue. The difference between a weak and irregular psi effect and a highly efficient in-the-body psychophysical interaction appears to be that between a rapid, superficial encounter and a progressively, patiently built companionship or complicity. And here again the round-about way with the apologue brings us back to sheer reality. As we may readily realize or recall, the smallest will-controlled bodily motion or the commonest meaning which speech or print conveys to us actually is the result of those particular kinds of patiently built psychism-body complicities which we call learning processes.

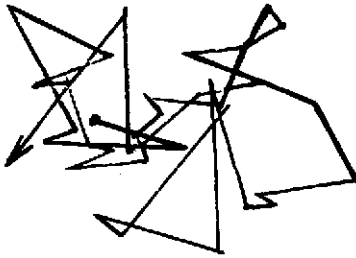
It may be argued here that quite a few laboratory experiments in parapsychology have actually been so arranged as to allow for at least some learning in the subjects. I am referring here not only to Honorton's specially designed feedback research (1970, 1971), or to Tart's reflection and experiments (1966, 1975), but more generally to all procedures which simply let the subject know whether he is being successful or not. Indeed, in terms of our basic subject + die experimental setting, can some learning not take place as soon as the subject is aware of what face comes up in each throw? Allegorically speaking, isn't there some sort of a dialogue with the daemon-in-the-die as soon as each throw conveys the daemon's answer to the subject's wish? Yes, in a way, but obviously it is a very gross dialogue as the daemon has only six different "words" for physically expressing whatever he may actually think; so that the subject is

left with mere conjectures as to what the daemon means when, say, he answers 3, then 2, then 6 to a wish for fives. Things are radically different, though, in the stranger-in-his-body variant of the apologue. Besides the actual raising of his arm, the range of the man's possible answers to your arm-raising request is *virtually infinite*, and, with a few exceptions, each one of them can be felt as bearing some close or remote, positive or negative, yet meaningful relationship to your project. And *this is precisely why* a fruitful dialogue could take place between you and him.

If we now transpose this in terms of experimental parapsychology, we come to the following conclusion: for establishing the patiently built subject-target companionship or complicity which alone can bring about regularly efficient psychophysical interactions, it is required that a sensitive enough practical criterion of his progress should be offered to the subject, just as in the supposed arm-raising-oriented dialogue with the stranger; in other words, it is required that *an extremely wide range of versatile and overlapping meanings* (from the standpoint of the subject's wish) *should be allowed for in the available behaviors or contents of the target*. It readily appears here how far the classical forced-choice targets lie from this standard. Cards of various types (ESP cards, clock cards, etc), coins, dice, balls or other moving objects, all convey narrow ranges of poorly varied and weakly overlapping or non-overlapping meanings. Things might have been different in free-response ESP tests with complex meaning-laden targets, for example all those in the early psychical research, but also those in Ullman and Krippner's dream studies or similar research. But as far as I can see, these experiments were definitely not so designed as to induce the subjects into entering the patient trial-and-error learning process which alone could have resulted in increased hit scores. Now, if classical parapsychology has fallen short of opening the way to the much longed-for regularly successful psi experiment, what could such an experiment possibly be?

DIALOGUE WITH CHANCE

Imagine a small self-powered vehicle which moves at random, for example, following a broken line, the straight segments of which are random both as to length and as to orientation (type-1 path), or following a curved line with a randomly varying curvature radius (type-2 path). If recorded on paper with a tracing pen attached to the vehicle, the paths could be something like this:



Type-1 Path



Type-2 Path

Such a randomly moving device could be called a *tychoscope*, from the Greek roots in *tycho*: chance, fate, and *scope*: to see, to look at; because it enables one to “see chance” either in the above form of its recorded path—which can be called a *tychogram*—or in the form of its actual instantaneous motion. A few tychoscopes with type-1 path were built by the author; they are cylindrical devices with the approximate size of a drinking glass.

The range of the possible behaviors of a tychoscope is very large: assuming a type-1 path, at the local level—the “words” of its “language”—each new direction may make any angle from 0 to 360 degrees with the preceding one, and the lengths of the straight segments in the successive directions are random within a wide enough range about their mean value. At a more synthetic level—the “sentences” of the tychoscope’s “language”—the variety of the possible paths between one point and another is virtually infinite. Also, each local move of the device is a more or less direct and important contribution to its final displacement; in other words, from the standpoint of a PK subject who would try to obtain a specified type of displacement. General direction, distance, shape of path, etc., each one of the many possible behaviors of the tychoscope, would in its own way be meaningfully related to the task at hand.

It is clear enough that such characteristics meet with the earlier defined requirements for the type of target to be used in the yet-to-be-done fully successful psi experiment. A tychoscope is a PK target with a wide range of behaviors with versatile and overlapping meanings. So, building up the close companionship which is needed to finally obtain such results as may be expected may begin right now; the most important piece of hardware is available. One just has to let the tychoscope run on the table or on the floor, with whatever limits for local or maximum displacement and whatever settings for speed and other internal variables may be felt most favorable, then start “asking”

it to behave in a specified way, see how it actually responds, modify the request accordingly, etc. Tychoqram records may be used if detailed path analysis appears to be called for. Once again, though, let us not expect rapid results. It takes time to tame a horse, or a bird, or to learn to speak a foreign language, or to teach something to a child, and not everybody is equally successful at doing it; yet techniques exist for that, whereas in the "taming" of a tychoscope everything has to be invented and nobody ever did it.

Let us, finally, come to the fundamental question which arises in the context of tychoscope experimentation. *What* exactly is a tychoscope? A physical device which was so designed as to behave randomly, that is, in an unpredictable way, but which is expected to behave more and more predictably—at least up to a certain point—as the "dialogue" with the subject goes on and its motion more and more clearly reflects whatever meaningful contents the subject is trying to convey through this dialogue. So, because it may react to psychical contents as such, a tychoscope appears to be more than a mere physical object in the ordinary sense; rather, it is a *psychophysical "something."* Note, that although this conclusion is clearest in the case of a tychoscope, it would also hold for all other sources of chance events: rolling dice, flipping coins, rolling balls on rough surfaces, random number generators in operation, and also, ultimately, for all quantum particles in ordinary inanimate matter at the moments when they interact, since at that level, too, chance can be influenced by PK. The whole physical realm, of course, is potentially concerned by this last reflection; this is not surprising, though, in the light of the earlier stated general postulate that reality is psychophysical in essence. As concerns now the living realm, to the extent that a tychoscope is a psychophysical "thing" it obviously has something in common with living bodies, which we may recall are basically psychophysical. A tychoscope then, or any other source of random events, may to some extent be paralleled to a psychism-inhabited body. This was already tacitly implied by the way we spoke of "taming" it like an animal. Do we have, then, to conclude that it is actually psychism-inhabited itself? In this perspective we would, more generally, have to envisage that randomness in behavior might be *the* essential criterion of psychism or of life, so that the main difference between an ordinary living being and an inanimate physical object, in which myriads of elementary particle encounters with random outcomes permanently occur, would be that chance shows up at the macroscopic level in the former, and does not in the latter. Ordinary sources of random events such as dice, coins, etc., where chance operates only in special conditions (upon their being thrown,

tossed . . .), would then have to be considered as endowed with intermittent psychism.

If there was at least some truth in the above reflections, a novel path would appear to be open to research; that of *the experimental study of psychism; and of life on quasi-living (or really living?) man-made models*. The tyroscope is the simplest example of such models, but all of them will, like the tyroscope, be built with mere mechanical parts and electronic components. There probably existed a forerunner to this venture; in so far as the alchemists' *homunculus*, a small creature which occupied an important place in the alchemical enterprise, was conceived of as artificially made yet endowed with life, it should be considered as a tyroscope's ancestor. In fact and more generally, the idea of creating life at will, with one's own hands and outside woman's womb, thus closing in on the essential enigma of life's meaning and man's status in the universe and perhaps mastering it, was probably already implied in the very first flash of human consciousness. So, if tyroscope taming succeeded, thereby demonstrating a basic connivance between living psychism on the one hand, and chance physical events on the other hand, it would open the way to an at last concrete approach to one of the world's oldest questions. It is thus perhaps not unreasonable to hope that along such new experimental lines as were defined here, through his dialogue with the Sphinx of chance the thoughtful researcher might be offered some far-reaching answers.

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DISCUSSION

STANFORD: I want specifically to compliment you on what I think is one of the most ingenious and potentially useful of the feedback modes for possible PK effects. I certainly would like to know whether these are commercially available, because I would think they would have some excellent applications and psychological appeal in the laboratory, particularly with children and with a lot of adults if they're anything like me.

JANIN: Well, to build one like this takes me two weeks at least and there is about \$80 worth of components in it, so a tyroscope ends up being quite expensive. If you are ready to buy one, I'll gladly build it for you. I must say however, that I do not consider this model of a tyroscope to be perfect as far as mechanical and electronic behavior is concerned: it still needs some improvement. If you decided to buy one, I would ask you to give me a few more months to get the next model ready.

BELOFF: I must confess I found your paper extraordinarily difficult and I don't claim as yet to be able to understand it, but perhaps you could help me if you could clarify your position on one particular aspect. In talking of psychophysical interactions you seem at first to be committed to a dualist position, but you reject any kind of Cartesian or categorical dualism on the grounds that we never have independent evidence for both mind and matter. Now, it certainly can be argued, as Dr. Penelhum argued yesterday, that we don't have such independent evidence of minds existing apart from bodies, unless we take survival evidence more literally; but the question of matter existing apart from mind—this surprises me very much. I mean, are you committed to an idealist position? Do you believe that matter is just a construct of mind? Or do you admit, as I would want to do, that the universe existed long before there were any observers there to describe it?

JANIN: I really think that there can never be any proof that the universe existed before anyone thought of it or looked at it. Of course, this sounds like an idealist position, but I don't think it is, and I don't see how you can avoid it.

PENELHUM: I have difficulty with your daemon theory, which may merely show I don't understand it fully. You, I think, are suggesting that we should understand psychokinesis on the model of telepathic persuasion, so that in the case of PK, what is taking place is similar to what would take place if I walked up to you and telepathically persuaded you to raise your arm. Now, if that is your theory, then it seems to me you have to assume that we fully understand or have no problem about the relationships between *my* mind and *my* body, because, if your theory is correct, then it explains why *his* arm goes up by saying that *I* persuade the daemon *in him* to lift it. It explains why the die falls as I will by saying that I somehow persuade the daemon on the die to make it come down in that way. Now, you cannot also say that when I raise my own arm I persuade the daemon in *my* body to raise it or there will then be two spirits in my body—mine and the daemon who controls the movement of my limbs. Therefore, in order for your theory to work, you have to assume that the relationship between each person's psyche and his own body is unproblematic. Is that an acceptable consequence for you?

JANIN: I think that the relationship between your psychism and your own body or my psychism and my own body is problematic in the beginning. So, when you say that you would have to assume that there are two spirits in the same body, well, I would rather agree. It does happen that some people do not control their bodily motions.

MATTUCK: I would like to say, first, that I found this a very fascinating talk and I agree that randomness is extremely fundamental. I think it is *the* fundamental thing to look at in trying to understand psi phenomena. The reason why I feel this way is that one of the big problems in psychokinesis is the fact that the energies of the moving PK objects—for example, in a Kulagina-type phenomenon—are much too large to be accounted for by any sort of known radiations from the mind transmitted to the object. No electrostatic field or electromagnetic field or acoustic field from the mind can account for the energy of the PK object. Randomness helps us here, since we can visualize that what the mind is doing is to make use of the energies already present in the environment in the

form of random fluctuations or noise. Now, with regard to the daemon and the dialogue with the daemon, I feel that these ideas can be put into terms which are more satisfying to physicists. Firstly, you don't have to put a daemon into that die, because the die is going to move in a random way as a result of thermal fluctuations. Secondly, the dialogue, I feel should be phrased in terms of information, an information field which comes from the mind, and is present at the object. These two things—randomness, which you call the daemon, and the information field, which you call the dialogue—can be expressed in completely quantitative terms, so you can actually do calculations to show that at least some of the phenomena that Kulagina produced can be accounted for on the basis of a simple picture involving mind, thermal fluctuations in matter, and the amount of information that mind is able to process. Why is it that the mind seems to be able to control its own brain better than it can control these glasses of mineral water on the table? Well, I think some of the observations of William Roll have shown that in the poltergeist phenomena, the number of phenomena taking place decreases rapidly with distance. Hence you might say simply that the information field is most dense inside the cranium of the person himself, so he's best able to convey information to control the random behavior of the electrons and atoms and molecules in his own brain. So you get the most effective type of psychokinesis in the brain itself. As far as the outer information field is concerned, it's much lower in intensity. This means the amount of information you're able to convey to the environment is much smaller, so you'd expect that you would get considerably smaller effects. So I think that there is a quantitative way of expressing these things which you expressed qualitatively.

JANIN: When I speak of dialogue, and in reference to what I said in my paper, I mean a dialogue where *meanings* are exchanged, not information. So I do not think I can accept, at least in my perspective, your idea of an information field.

HILL: The first thing Janin mentioned was the role of the observer in the experiment. Of course, this is deeply involved in the dualist hypothesis which has been bandied back and forth for the last three days, and I think this is a very important point, because, of course, there is no experiment which can be performed where there is not an observer at some point or another. Mr. Janin has done experiments on retro-PK where the role of the observer at a *future time* perhaps could be important, and there's a lot more we can say about that. In fact, Walker's latest formulation in the so-called "Pan-

dora's Box Experiment" says that the only way you can guarantee no effect in a PK experiment is if neither the subject nor the experimenter nor any other person is ever informed of the results, and of course, in that case you can't detect the results, so it seems to be an inviolable hypothesis. We also think that the effect of the observers is in the experimenter's effect and this sort of effect is cropping up in my own work now, and I think that a lot more thinking needs to be done about possible ways that an observer can enter into a system. Now, one of the ways you mentioned was the daemon. I assume you're referring to the Maxwell daemon now. I'm sure you're also aware that the original problem with the Maxwell daemon was that it violated the laws of thermodynamics because it used energy. Now, as Dr. Mattuck has mentioned a few times, we have another formulation of the Copenhagen interpretation of quantum mechanics, where we think the daemon draws energy from the noise energy in the environment so I would like you to clarify a little bit what you mean by the daemon and where he gets his energy.

JANIN: My daemon is a completely allegorical creature. I do not have to look for where he gets his energy from. What I ultimately mean is that in order to control by PK a material object outside your body, you just have to be in a good psychological relationship to that object, and this is what I wanted to illustrate with the daemon idea—nothing else.

ROLL: It's true that poltergeist disturbances involve meaning in the way you said, but it also seems that these forms of PK, if indeed they are the same as dice and other laboratory PK phenomena, conform in a striking way to known energetic processes. Now, in general, I think it's very useful in trying to reach an understanding of psi phenomena to explore them where they exist at their most striking, and poltergeist phenomena certainly are striking in more ways than one. What is your opinion about the tendency for poltergeist phenomena to attenuate with distance from the apparent agent, and related effect such as the tendency for light objects to move short distances.

JANIN: I might answer that these tendencies are only illustrations of what the subject himself believes, consciously or not. The subject would find it very strange, and also the observer would find it very strange, if things moved three miles away rather than in the close vicinity of the subject so as a rule it doesn't happen. However unusual they may be, poltergeist events can not be meaningless.

ROLL: As a rule, poltergeist agents are entirely unaware of their involvement in these occurrences. It's often only when the parapsychologist enters on the scene that a relationship is found between the phenomena and a particular person. Do you think that this creates any difficulties?

JANIN: I would say that the poltergeist agent is not unaware. There are various reasons to believe that he is unconsciously very much aware of what is happening.