THE CONCEPT OF MIND

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subordinates. The idioms used were those of ruling, obeying, collaborating and rebelling. They survived and still survive in many ethical and some epistemological discussions. As, in physics, the new myth of occult Forces was a scientific improvement on the old myth of Final Causes, so, in anthropological and psychological theory, the new myth of hidden operations, impulses and agencies was an improvement on the old myth of dictations, deferences and disobediences.

CHAPTER II

KNOWING HOW AND KNOWING THAT

(1) *Foreword.*

IN this chapter I try to show that when we describe people as exercising qualities of mind, we are not referring to occult episodes of which their overt acts and utterances are effects; we are referring to those overt acts and utterances themselves. There are, of course, differences, crucial for our inquiry, between describing an action as performed absent-mindedly and describing a physiologically similar action as done on purpose, with care or with cunning. But such differences of description do not consist in the absence or presence of an implicit reference to some shadow-action covertly prefacing the overt action. They consist, on the contrary, in the absence or presence of certain sorts of testable explanatory-cum-predictive assertions.

(2) *Intelligence and Intellect.*

The mental-conduct concepts that I choose to examine first are those which belong to that family of concepts ordinarily surnamed 'intelligence'. Here are a few of the more determinate adjectives of this family: 'clever', 'sensible', 'careful', 'methodical', 'inventive', 'prudent', 'acute', 'logical', 'witty', 'observant', 'critical', 'experimental', 'quick-witted', 'cunning', 'wise', 'judicious' and 'scrupulous'. When a person is deficient in intelligence he is described as 'stupid' or else by more determinate epithets such as 'dull', 'silly', 'careless', 'unmethodical', 'uninventive', 'rash', 'dense', 'illogical', 'humourless', 'unobservant', 'uncritical', 'unexperimental', 'slow,' 'simple', 'unwise' and 'injudicious'.

It is of first-rate importance to notice from the start that stupidity is not the same thing, or the same sort of thing, as ignorance. There is no incompatibility between being well-informed and being

silly, and a person who has a good nose for arguments or jokes may have a bad head for facts.

Part of the importance of this distinction between being intelligent and possessing knowledge lies in the fact that both philosophers and laymen tend to treat intellectual operations as the core of mental conduct; that is to say, they tend to define all other mental-conduct concepts in terms of concepts of cognition. They suppose that the primary exercise of minds consists in finding the answers to questions and that their other occupations are merely applications of considered truths or even regrettable distractions from their consideration. The Greek idea that immortality is reserved for the theorising part of the soul was discredited, but not dispelled, by Christianity.

When we speak of the intellect or, better, of the intellectual powers and performances of persons, we are referring primarily to that special class of operations which constitute theorising. The goal of these operations is the knowledge of true propositions or facts. Mathematics and the established natural sciences are the model accomplishments of human intellects. The early theorists naturally speculated upon what constituted the peculiar excellences of the theoretical sciences and disciplines, the growth of which they had witnessed and assisted. They were predisposed to find that it was in the capacity for rigorous theory that lay the superiority of men over animals, of civilised men over barbarians and even of the divine mind over human minds. They thus bequeathed the idea that the capacity to attain knowledge of truths was the defining property of a mind. Other human powers could be classed as mental only if they could be shown to be somehow piloted by the intellectual grasp of true propositions. To be rational was to be able to recognise truths and the connections between them. To act rationally was, therefore, to have one's non-theoretical propensities controlled by one's apprehension of truths about the conduct of life.

The main object of this chapter is to show that there are many activities which directly display qualities of mind, yet are neither themselves intellectual operations nor yet effects of intellectual operations. Intelligent practice is not a step-child of theory. On the contrary theorising is one practice amongst others and is itself intelligently or stupidly conducted.

There is another reason why it is important to correct from the start the intellectualist doctrine which tries to define intelligence in terms of the apprehension of truths, instead of the apprehension of truths in terms of intelligence. Theorising is an activity which most people can and normally do conduct in silence. They articulate in sentences the theories that they construct, but they do not most of the time speak these sentences out loud. They say them to themselves. Or they formulate their thoughts in diagrams and pictures, but they do not always set these out on paper. They 'see them in their minds' eyes'. Much of our ordinary thinking is conducted in internal monologue or silent soliloquy, usually accompanied by an internal cinematograph-show of visual imagery.

This trick of talking to oneself in silence is acquired neither quickly nor without effort; and it is a necessary condition of our acquiring it that we should have previously learned to talk intelligently aloud and have heard and understood other people doing so. Keeping our thoughts to ourselves is a sophisticated accomplishment. It was not until the Middle Ages that people learned to read without reading aloud. Similarly a boy has to learn to read aloud before he learns to read under his breath, and to prattle aloud before he prattles to himself. Yet many theorists have supposed that the silence in which most of us have learned to think is a defining property of thought. Plato said that in thinking the soul is talking to itself. But silence, though often convenient, is inessential, as is the restriction of the audience to one recipient.

The combination of the two assumptions that theorising is the primary activity of minds and that theorising is intrinsically a private, silent or internal operation remains one of the main supports of the dogma of the ghost in the machine. People tend to identify their minds with the 'place' where they conduct their secret thoughts. They even come to suppose that there is a special mystery about how we publish our thoughts instead of realising that we employ a special artifice to keep them to ourselves.

(3) *Knowing How and Knowing That.*

When a person is described by one or other of the intelligence-epithets such as 'shrewd' or 'silly', 'prudent' or 'imprudent', the description imputes to him not the knowledge, or ignorance, of this or that truth, but the ability, or inability, to do certain sorts of things.

Theorists have been so preoccupied with the task of investigating the nature, the source and the credentials of the theories that we adopt that they have for the most part ignored the question what it is for someone to know how to perform tasks. In ordinary life, on the contrary, as well as in the special business of teaching, we are much more concerned with people's competences than with their cognitive repertoires, with the operations than with the truths that they learn. Indeed even when we are concerned with their intellectual excellences and deficiencies, we are interested less in the stocks of truths that they acquire and retain than in their capacities to find out truths for themselves and their ability to organise and exploit them, when discovered. Often we deplore a person's ignorance of some fact only because we deplore the stupidity of which his ignorance is a consequence.

There are certain parallelisms between knowing *how* and knowing *that*, as well as certain divergences. We speak of learning how to play an instrument as well as of learning that something is the case; of finding out how to prune trees as well as of finding out that the Romans had a camp in a certain place; of forgetting how to tie a reef-knot as well as of forgetting that the German for 'knife' is '*Messer*'. We can wonder *how* as well as wonder *whether*.

On the other hand we never speak of a person believing or opining *how*, and though it is proper to ask for the grounds or reasons for someone's acceptance of a proposition, this question cannot be asked of someone's skill at cards or prudence in investments.

What is involved in our descriptions of people as knowing how to make and appreciate jokes, to talk grammatically, to play chess, to fish, or to argue? Part of what is meant is that, when they perform these operations, they tend to perform them well, i.e. correctly or efficiently or successfully. Their performances come up to certain standards, or satisfy certain criteria. But this is not enough. The well-regulated clock keeps good time and the well-drilled circus seal performs its tricks flawlessly, yet we do not call them 'intelligent'. We reserve this title for the persons responsible for their performances. To be intelligent is not merely to satisfy criteria, but to apply them; to regulate one's actions and not merely to be well-regulated. A person's performance is described as careful or skilful, if in his operations he is ready to detect and correct lapses,

to repeat and improve upon successes, to profit from the examples of others and so forth. He applies criteria in performing critically, that is, in trying to get things right.

This point is commonly expressed in the vernacular by saying that an action exhibits intelligence, if, and only if, the agent is thinking what he is doing while he is doing it, and thinking what he is doing in such a manner that he would not do the action so well if he were not thinking what he is doing. This popular idiom is sometimes appealed to as evidence in favour of the intellectualist legend. Champions of this legend are apt to try to reassimilate knowing *how* to knowing *that* by arguing that intelligent performance involves the observance of rules, or the application of criteria. It follows that the operation which is characterised as intelligent must be preceded by an intellectual acknowledgment of these rules or criteria; that is, the agent must first go through the internal process of avowing to himself certain propositions about what is to be done ('maxims', 'imperatives' or 'regulative propositions' as they are sometimes called); only then can he execute his performance in accordance with those dictates. He must preach to himself before he can practise. The chef must recite his recipes to himself before he can cook according to them; the hero must lend his inner ear to some appropriate moral imperative before swimming out to save the drowning man; the chess-player must run over in his head all the relevant rules and tactical maxims of the game before he can make correct and skilful moves. To do something thinking what one is doing is, according to this legend, always to do two things; namely, to consider certain appropriate propositions, or prescriptions, and to put into practice what these propositions or prescriptions enjoin. It is to do a bit of theory and then to do a bit of practice.

Certainly we often do not only reflect before we act but reflect in order to act properly. The chess-player may require some time in which to plan his moves before he makes them. Yet the general assertion that all intelligent performance requires to be prefaced by the consideration of appropriate propositions rings unplausibly, even when it is apologetically conceded that the required consideration is often very swift and may go quite unmarked by the agent. I shall argue that the intellectualist legend is false and that when we

describe a performance as intelligent, this does not entail the double operation of considering and executing.

First, there are many classes of performances in which intelligence is displayed, but the rules or criteria of which are unformulated. The wit, when challenged to cite the maxims, or canons, by which he constructs and appreciates jokes, is unable to answer. He knows how to make good jokes and how to detect bad ones, but he cannot tell us or himself any recipes for them. So the practice of humour is not a client of its theory. The canons of aesthetic taste, of tactful manners and of inventive technique similarly remain unpropounded without impediment to the intelligent exercise of those gifts.

Rules of correct reasoning were first extracted by Aristotle, yet men knew how to avoid and detect fallacies before they learned his lessons, just as men since Aristotle, and including Aristotle, ordinarily conduct their arguments without making any internal reference to his formulae. They do not plan their arguments before constructing them. Indeed if they had to plan what to think before thinking it they would never think at all; for this planning would itself be unplanned.

Efficient practice precedes the theory of it; methodologies presuppose the application of the methods, of the critical investigation of which they are the products. It was because Aristotle found himself and others reasoning now intelligently and now stupidly and it was because Izaak Walton found himself and others angling sometimes effectively and sometimes ineffectively that both were able to give to their pupils the maxims and prescriptions of their arts. It is therefore possible for people intelligently to perform some sorts of operations when they are not yet able to consider any propositions enjoining how they should be performed. Some intelligent performances are not controlled by any anterior acknowledgments of the principles applied in them.

The crucial objection to the intellectualist legend is this. The consideration of propositions is itself an operation the execution of which can be more or less intelligent, less or more stupid. But if, for any operation to be intelligently executed, a prior theoretical operation had first to be performed and performed intelligently, it would be a logical impossibility for anyone ever to break into the circle.

Let us consider some salient points at which this regress would

arise. According to the legend, whenever an agent does anything intelligently, his act is preceded and steered by another internal act of considering a regulative proposition appropriate to his practical problem. But what makes him consider the one maxim which is appropriate rather than any of the thousands which are not? Why does the hero not find himself calling to mind a cooking-recipe, or a rule of Formal Logic? Perhaps he does, but then his intellectual process is silly and not sensible. Intelligently reflecting how to act is, among other things, considering what is pertinent and disregarding what is inappropriate. Must we then say that for the hero's reflections how to act to be intelligent he must first reflect how best to reflect how to act? The endlessness of this implied regress shows that the application of the criterion of appropriateness does not entail the occurrence of a process of considering this criterion.

Next, supposing still that to act reasonably I must first perpend the reason for so acting, how am I led to make a suitable application of the reason to the particular situation which my action is to meet? For the reason, or maxim, is inevitably a proposition of some generality. It cannot embody specifications to fit every detail of the particular state of affairs. Clearly, once more, I must be sensible and not stupid, and this good sense cannot itself be a product of the intellectual acknowledgment of any general principle. A soldier does not become a shrewd general merely by endorsing the strategic principles of Clausewitz; he must also be competent to apply them. Knowing how to apply maxims cannot be reduced to, or derived from, the acceptance of those or any other maxims.

To put it quite generally, the absurd assumption made by the intellectualist legend is this, that a performance of any sort inherits all its title to intelligence from some anterior internal operation of planning what to do. Now very often we do go through such a process of planning what to do, and, if we are silly, our planning is silly, if shrewd, our planning is shrewd. It is also notoriously possible for us to plan shrewdly and perform stupidly, i.e. to flout our precepts in our practice. By the original argument, therefore, our intellectual planning process must inherit its title to shrewdness from yet another interior process of planning to plan, and this process could in its turn be silly or shrewd. The regress is infinite. and this reduces to absurdity the theory that for an operation to be

intelligent it must be steered by a prior intellectual operation. What distinguishes sensible from silly operations is not their parentage but their procedure, and this holds no less for intellectual than for practical performances. 'Intelligent' cannot be defined in terms of 'intellectual' or 'knowing *how*' in terms of 'knowing *that*'; 'thinking what I am doing' does not connote 'both thinking what to do and doing it'. When I do something intelligently, i.e. thinking what I am doing, I am doing one thing and not two. My performance has a special procedure or manner, not special antecedents.

(4) *The Motives of the Intellectualist Legend.*

Why are people so strongly drawn to believe, in the face of their own daily experience, that the intelligent execution of an operation must embody two processes, one of doing and another of theorising? Part of the answer is that they are wedded to the dogma of the ghost in the machine. Since doing is often an overt muscular affair, it is written off as a merely physical process. On the assumption of the antithesis between 'physical' and 'mental', it follows that muscular doing cannot itself be a mental operation. To earn the title 'skilful', 'cunning', or 'humorous', it must therefore get it by transfer from another counterpart act occurring not 'in the machine' but 'in the ghost'; for 'skilful', 'cunning' and 'humorous' are certainly mental predicates.

It is, of course, perfectly true that when we characterise as witty or tactful some piece of overt behaviour, we are not considering only the muscular movements which we witness. A parrot might have made the same remark in the same situation without our crediting it with a sense of humour, or a lout might have done precisely what the tactful man did, without our thinking him tactful. But if one and the same vocal utterance is a stroke of humour from the humorist, but a mere noise-response, when issuing from the parrot, it is tempting to say that we are ascribing wit not to something that we hear but to something else that we do not hear. We are accordingly tempted to say that what makes one audible or visible action witty, while another audibly or visibly similar action was not, is that the former was attended by another inaudible and invisible action which was the real exercise of wit. But to admit, as we must, that there may be no visible or audible difference between a tactful or witty act and a tactless or humourless one is

not to admit that the difference is constituted by the performance or non-performance of some extra secret acts.

The cleverness of the clown may be exhibited in his tripping and tumbling. He trips and tumbles just as clumsy people do, except that he trips and tumbles on purpose and after much rehearsal and at the golden moment and where the children can see him and so as not to hurt himself. The spectators applaud his skill at seeming clumsy, but what they applaud is not some extra hidden performance executed 'in his head'. It is his visible performance that they admire, but they admire it not for being an effect of any hidden internal causes but for being an exercise of a skill. Now a skill is not an act. It is therefore neither a witnessable nor an unwitnessable act. To recognise that a performance is an exercise of a skill is indeed to appreciate it in the light of a factor which could not be separately recorded by a camera. But the reason why the skill exercised in a performance cannot be separately recorded by a camera is not that it is an occult or ghostly happening, but that it is not a happening at all. It is a disposition, or complex of dispositions, and a disposition is a factor of the wrong logical type to be seen or unseen, recorded or unrecorded. Just as the habit of talking loudly is not itself loud or quiet, since it is not the sort of term of which 'loud' and 'quiet' can be predicated, or just as a susceptibility to headaches is for the same reason not itself unendurable or endurable, so the skills, tastes and bents which are exercised in overt or internal operations are not themselves overt or internal, witnessable or unwitnessable. The traditional theory of the mind has misconstrued the type-distinction between disposition and exercise into its mythical bifurcation of unwitnessable mental causes and their witnessable physical effects.

The clown's trippings and tumblings are the workings of his mind, for they are his jokes; but the visibly similar trippings and tumblings of a clumsy man are not the workings of that man's mind. For he does not trip on purpose. Tripping on purpose is both a bodily and a mental process, but it is not two processes, such as one process of purposing to trip and, as an effect, another process of tripping. Yet the old myth dies hard. We are still tempted to argue that if the clown's antics exhibit carefulness, judgment, wit, and appreciation of the moods of his spectators, there must be occurring in the clown's head a counterpart performance to that which is taking

place on the sawdust. If he is thinking what he is doing, there must be occurring behind his painted face a cogitative shadow-operation which we do not witness, tallying with, and controlling, the bodily contortions which we do witness. Surely the thinking of thoughts is the basic activity of minds and surely, too, the process of thinking is an invisible and inaudible process. So how can the clown's visible and audible performance be his mind at work?

To do justice to this objection it is necessary to make a verbal concession. There has fairly recently come into general use a certain special sense of the words 'mental' and 'mind'. We speak of 'mental arithmetic', of 'mind-reading' and of debates going on 'in the mind', and it certainly is the case that what is in this sense mental is unwitnessable. A boy is said to be doing 'mental arithmetic' when instead of writing down, or reciting aloud, the numerical symbols with which he is operating, he says them to himself, performing his calculations in silent soliloquy. Similarly a person is said to be reading the mind of another when he describes truly what the other is saying or picturing to himself in auditory or visual images. That these are special uses of 'mental' and 'mind' is easily shown. For a boy who does his calculating aloud, or on paper, may be reasoning correctly and organising his steps methodically; his reckoning is not the less a careful intellectual operation for being conducted in public instead of in private. His performance is therefore an exercise of a mental faculty in the normal sense of 'mental'.

Now calculating does not first acquire the rank of proper thinking when its author begins to do it with his lips closed and his hands in his pockets. The sealing of the lips is no part of the definition of thinking. A man may think aloud or half under his breath; he may think silently, yet with lip-movements conspicuous enough to be read by a lip-reader; or he may, as most of us have done since nursery-days, think in silence and with motionless lips. The differences are differences of social and personal convenience, of celerity and of facility. They need import no more differences into the coherence, cogency or appropriateness of the intellectual operations performed than is imported into them by a writer's preference for pencils over pens, or for invisible ink over ordinary ink. A deaf and dumb person talks in manual signs. Perhaps, when he wants to keep his thoughts to himself, he makes these signs with his hands kept behind his back or under the table. The fact that these

signs might happen to be observed by a Paul Pry would not lead us or their maker to say that he was not thinking.

This special use of 'mental' and 'mind' in which they signify what is done 'in one's head' cannot be used as evidence for the dogma of the ghost in the machine. It is nothing but a contagion from that dogma. The technical trick of conducting our thinking in auditory word-images, instead of in spoken words, does indeed secure secrecy for our thinking, since the auditory imaginings of one person are not seen or heard by another (or, as we shall see, by their owner either). But this secrecy is not the secrecy ascribed to the postulated episodes of the ghostly shadow-world. It is merely the convenient privacy which characterises the tunes that run in my head and the things that I see in my mind's eye.

Moreover the fact that a person says things to himself in his head does not entail that he is thinking. He can babble deliriously, or repeat jingles in inner speech, just as he can in talking aloud. The distinction between talking sense and babbling, or between thinking what one is saying and merely saying, cuts across the distinction between talking aloud and talking to oneself. What makes a verbal operation an exercise of intellect is independent of what makes it public or private. Arithmetic done with pencil and paper may be more intelligent than mental arithmetic, and the public tumblings of the clown may be more intelligent than the tumblings which he merely 'sees' in his mind's eye or 'feels' in his mind's legs, if, as may or may not be the case, any such imaginings of antics occur.

(5) '*In my head*'.

It is convenient to say something here about our everyday use of the phrase 'in my head'. When I do mental arithmetic, I am likely to say that I have had the numbers with which I have been working 'in my head' and not on paper; and if I have been listening to a catchy air or a verbal jingle, I am likely to describe myself later on as still having the tune or jingle 'running in my head'. It is 'in my head' that I go over the Kings of England, solve anagrams and compose limericks. Why is this felt to be an appropriate and expressive metaphor? For a metaphor it certainly is. No one thinks that when a tune is running in my head, a surgeon could unearth a little orchestra buried inside my skull or that a

When people employ the idiom 'in the mind', they are usually expressing over-sophisticatedly what we ordinarily express by the less misleading metaphorical use of 'in the head'. The phrase 'in the mind' can and should always be dispensed with. Its use habituates its employers to the view that minds are queer 'places', the occupants of which are special-status phantasms. It is part of the function of this book to show that exercises of qualities of mind do not, save *per accidens*, take place 'in the head', in the ordinary sense of the phrase, and those which do so have no special priority over those which do not.

(6) *The positive account of Knowing How.*

So far I hope to have shown that the exercise of intelligence in practice cannot be analysed into a tandem operation of first considering prescriptions and then executing them. We have also examined some of the motives which incline theorists to adopt this analysis.

But if to perform intelligently is to do one thing and not two things, and if to perform intelligently is to apply criteria in the conduct of the performance itself, it remains to show how this factor does characterise those operations which we recognise as skilful, prudent, tasteful or logical. For there need be no visible or audible differences between an action done with skill and one done from sheer habit, blind impulse, or in a fit of absence of mind. A parrot may squawk out 'Socrates is mortal' immediately after someone has uttered premisses from which this conclusion follows. One boy may, while thinking about cricket, give by rote the same correct answer to a multiplication problem which another boy gives who is thinking what he is doing. Yet we do not call the parrot 'logical', or describe the inattentive boy as working out the problem.

Consider first a boy learning to play chess. Clearly before he has yet heard of the rules of the game he might by accident make a move with his knight which the rules permit. The fact that he makes a permitted move does not entail that he knows the rule which permits it. Nor need the spectator be able to discover in the way the boy makes this move any visible feature which shows whether the move is a random one, or one made in knowledge of the rules. However, the boy now begins to learn the game properly, and this generally involves his receiving explicit instruction in the

rules. He probably gets them by heart and is then ready to cite them on demand. During his first few games he probably has to go over the rules aloud or in his head, and to ask now and then how they should be applied to this or that particular situation. But very soon he comes to observe the rules without thinking of them. He makes the permitted moves and avoids the forbidden ones; he notices and protests when his opponent breaks the rules. But he no longer cites to himself or to the room the formulae in which the bans and permissions are declared. It has become second nature to him to do what is allowed and to avoid what is forbidden. At this stage he might even have lost his former ability to cite the rules. If asked to instruct another beginner, he might have forgotten how to state the rules and he would show the beginner how to play only by himself making the correct moves and cancelling the beginner's false moves.

But it would be quite possible for a boy to learn chess without ever hearing or reading the rules at all. By watching the moves made by others and by noticing which of his own moves were conceded and which were rejected, he could pick up the art of playing correctly while still quite unable to propound the regulations in terms of which 'correct' and 'incorrect' are defined. We all learned the rules of hunt-the-thimble and hide-and-seek and the elementary rules of grammar and logic in this way. We learn *how* by practice, schooled indeed by criticism and example, but often quite unaided by any lessons in the theory.

It should be noticed that the boy is not said to know how to play, if all that he can do is to recite the rules accurately. He must be able to make the required moves. But he is said to know how to play if, although he cannot cite the rules, he normally does make the permitted moves, avoid the forbidden moves and protest if his opponent makes forbidden moves. His knowledge *how* is exercised primarily in the moves that he makes, or concedes, and in the moves that he avoids or vetoes. So long as he can observe the rules, we do not care if he cannot also formulate them. It is not what he does in his head or with his tongue, but what he does on the board that shows whether or not he knows the rules in the executive way of being able to apply them. Similarly a foreign scholar might not know how to speak grammatical English as well as an English child, for all that he had mastered the theory of English grammar.

(7) *Intelligent Capacities versus Habits.*

The ability to apply rules is the product of practice. It is therefore tempting to argue that competences and skills are just habits. They are certainly second natures or acquired dispositions, but it does not follow from this that they are mere habits. Habits are one sort, but not the only sort, of second nature, and it will be argued later that the common assumption that all second natures are mere habits obliterates distinctions which are of cardinal importance for the inquiries in which we are engaged.

The ability to give by rote the correct solutions of multiplication problems differs in certain important respects from the ability to solve them by calculating. When we describe someone as doing something by pure or blind habit, we mean that he does it automatically and without having to mind what he is doing. He does not exercise care, vigilance, or criticism. After the toddling-age we walk on pavements without minding our steps. But a mountaineer walking over ice-covered rocks in a high wind in the dark does not move his limbs by blind habit; he thinks what he is doing, he is ready for emergencies, he economises in effort, he makes tests and experiments; in short he walks with some degree of skill and judgment. If he makes a mistake, he is inclined not to repeat it, and if he finds a new trick effective he is inclined to continue to use it and to improve on it. He is concomitantly walking and teaching himself how to walk in conditions of this sort. It is of the essence of merely habitual practices that one performance is a replica of its predecessors. It is of the essence of intelligent practices that one performance is modified by its predecessors. The agent is still learning.

This distinction between habits and intelligent capacities can be illustrated by reference to the parallel distinction between the methods used for inculcating the two sorts of second nature. We build up habits by drill, but we build up intelligent capacities by training. Drill (or conditioning) consists in the imposition of repetitions. The recruit learns to slope arms by repeatedly going through just the same motions by numbers. The child learns the alphabet and the multiplication tables in the same way. The practices are not learned until the pupil's responses to his cues are automatic, until he can 'do them in his sleep', as it is revealingly put. Training, on the other hand, though it embodies plenty of

sheer drill, does not consist of drill. It involves the stimulation by criticism and example of the pupil's own judgment. He learns how to do things thinking what he is doing, so that every operation performed is itself a new lesson to him how to perform better. The soldier who was merely drilled to slope arms correctly has to be trained to be proficient in marksmanship and map-reading. Drill dispenses with intelligence, training develops it. We do not expect the soldier to be able to read maps 'in his sleep'.

There is a further important difference between habits and intelligent capacities, to bring out which it is necessary to say a few words about the logic of dispositional concepts in general.

When we describe glass as brittle, or sugar as soluble, we are using dispositional concepts, the logical force of which is this. The brittleness of glass does not consist in the fact that it is at a given moment actually being shivered. It may be brittle without ever being shivered. To say that it is brittle is to say that if it ever is, or ever had been, struck or strained, it would fly, or have flown, into fragments. To say that sugar is soluble is to say that it would dissolve, or would have dissolved, if immersed in water.

A statement ascribing a dispositional property to a thing has much, though not everything, in common with a statement subsuming the thing under a law. To possess a dispositional property is not to be in a particular state, or to undergo a particular change; it is to be bound or liable to be in a particular state, or to undergo a particular change, when a particular condition is realised. The same is true about specifically human dispositions such as qualities of character. My being an habitual smoker does not entail that I am at this or that moment smoking; it is my permanent proneness to smoke when I am not eating, sleeping, lecturing or attending funerals, and have not quite recently been smoking.

In discussing dispositions it is initially helpful to fasten on the simplest models, such as the brittleness of glass or the smoking habit of a man. For in describing these dispositions it is easy to unpack the hypothetical proposition implicitly conveyed in the ascription of the dispositional properties. To be brittle is just to be bound or likely to fly into fragments in such and such conditions; to be a smoker is just to be bound or likely to fill, light and draw on a pipe in such and such conditions. These are simple, single-track dispositions, the actualisations of which are nearly uniform.

But the practice of considering such simple models of dispositions, though initially helpful, leads at a later stage to erroneous assumptions. There are many dispositions the actualisations of which can take a wide and perhaps unlimited variety of shapes; many disposition-concepts are determinable concepts. When an object is described as hard, we do not mean only that it would resist deformation; we mean also that it would, for example, give out a sharp sound if struck, that it would cause us pain if we came into sharp contact with it, that resilient objects would bounce off it, and so on indefinitely. If we wished to unpack all that is conveyed in describing an animal as gregarious, we should similarly have to produce an infinite series of different hypothetical propositions.

Now the higher-grade dispositions of people with which this inquiry is largely concerned are, in general, not single-track dispositions, but dispositions the exercises of which are indefinitely heterogeneous. When Jane Austen wished to show the specific kind of pride which characterised the heroine of 'Pride and Prejudice', she had to represent her actions, words, thoughts and feelings in a thousand different situations. There is no one standard type of action or reaction such that Jane Austen could say 'My heroine's kind of pride was just the tendency to do this, whenever a situation of that sort arose'.

Epistemologists, among others, often fall into the trap of expecting dispositions to have uniform exercises. For instance, when they recognise that the verbs 'know' and 'believe' are ordinarily used dispositionally, they assume that there must therefore exist one-pattern intellectual processes in which these cognitive dispositions are actualised. Flouting the testimony of experience, they postulate that, for example, a man who believes that the earth is round must from time to time be going through some unique proceeding of cognising, 'judging', or internally re-asserting, with a feeling of confidence, 'The earth is round'. In fact, of course, people do not harp on statements in this way, and even if they did do so and even if we knew that they did, we still should not be satisfied that they believed that the earth was round, unless we also found them inferring, imagining, saying and doing a great number of other things as well. If we found them inferring, imagining, saying and doing these other things, we should be satisfied that they believed

the earth to be round, even if we had the best reasons for thinking that they never internally harped on the original statement at all. However often and stoutly a skater avers to us or to himself, that the ice will bear, he shows that he has his qualms, if he keeps to the edge of the pond, calls his children away from the middle, keeps his eye on the life-belts or continually speculates what would happen, if the ice broke.

(8) *The exercise of intelligence.*

In judging that someone's performance is or is not intelligent, we have, as has been said, in a certain manner to look beyond the performance itself. For there is no particular overt or inner performance which could not have been accidentally or 'mechanically' executed by an idiot, a sleepwalker, a man in panic, absence of mind or delirium or even, sometimes, by a parrot. But in looking beyond the performance itself, we are not trying to pry into some hidden counterpart performance enacted on the supposed secret stage of the agent's inner life. We are considering his abilities and propensities of which this performance was an actualisation. Our inquiry is not into causes (and *a fortiori* not into occult causes), but into capacities, skills, habits, liabilities and bents. We observe, for example, a soldier scoring a bull's eye. Was it luck or was it skill? If he has the skill, then he can get on or near the bull's eye again, even if the wind strengthens, the range alters and the target moves. Or if his second shot is an outer, his third, fourth and fifth shots will probably creep nearer and nearer to the bull's eye. He generally checks his breathing before pulling the trigger, as he did on this occasion; he is ready to advise his neighbour what allowances to make for refraction, wind, etc. Marksmanship is a complex of skills, and the question whether he hit the bull's eye by luck or from good marksmanship is the question whether or not he has the skills, and, if he has, whether he used them by making his shot with care, self-control, attention to the conditions and thought of his instructions.

To decide whether his bull's eye was a fluke or a good shot, we need and he himself might need to take into account more than this one success. Namely, we should take into account his subsequent shots, his past record, his explanations or excuses, the advice he gave to his neighbour and a host of other clues of various

sorts. There is no one signal of a man's knowing how to shoot, but a modest assemblage of heterogeneous performances generally suffices to establish beyond reasonable doubt whether he knows how to shoot or not. Only then, if at all, can it be decided whether he hit the bull's eye because he was lucky, or whether he hit it because he was marksman enough to succeed when he tried.

A drunkard at the chessboard makes the one move which upsets his opponent's plan of campaign. The spectators are satisfied that this was due not to cleverness but to luck, if they are satisfied that most of his moves made in this state break the rules of chess, or have no tactical connection with the position of the game, that he would not be likely to repeat this move if the tactical situation were to recur, that he would not applaud such a move if made by another player in a similar situation, that he could not explain why he had done it or even describe the threat under which his King had been.

Their problem is not one of the occurrence or non-occurrence of ghostly processes, but one of the truth or falsehood of certain 'could' and 'would' propositions and certain other particular applications of them. For, roughly, the mind is not the topic of sets of untestable categorical propositions, but the topic of sets of testable hypothetical and semi-hypothetical propositions. The difference between a normal person and an idiot is not that the normal person is really two persons while the idiot is only one, but that the normal person can do a lot of things which the idiot cannot do; and 'can' and 'cannot' are not occurrence words but modal words. Of course, in describing the moves actually made by the drunk and the sober players, or the noises actually uttered by the idiotic and the sane men, we have to use not only 'could' and 'would' expressions, but also 'did' and 'did not' expressions. The drunkard's move was made recklessly and the sane man was minding what he was saying. In Chapter V I shall try to show that the crucial differences between such occurrence reports as 'he did it recklessly' and 'he did it on purpose' have to be elucidated not as differences between simple and composite occurrence reports, but in quite another way.

Knowing *how*, then, is a disposition, but not a single-track disposition like a reflex or a habit. Its exercises are observances of rules or canons or the applications of criteria, but they are not tandem operations of theoretically avowing maxims and then putting them into practice. Further, its exercises can be overt or

covert, deeds performed or deeds imagined, words spoken aloud or words heard in one's head, pictures painted on canvas or pictures in the mind's eye. Or they can be amalgamations of the two.

These points may be jointly illustrated by describing what happens when a person argues intelligently. There is a special point in selecting this example, since so much has been made of the rationality of man; and part, though only part, of what people understand by 'rational' is 'capable of reasoning cogently'.

First, it makes no important difference whether we think of the reasoner as arguing to himself or arguing aloud, pleading, perhaps, before an imagined court or pleading before a real court. The criteria by which his arguments are to be adjudged as cogent, clear, relevant and well organised are the same for silent as for declaimed or written ratiocinations. Silent argumentation has the practical advantages of being relatively speedy, socially undisturbing and secret; audible and written argumentation has the advantage of being less slap-dash, through being subjected to the criticisms of the audience and readers. But the same qualities of intellect are exercised in both, save that special schooling is required to inculcate the trick of reasoning in silent soliloquy.

Next, although there may occur a few stages in his argument which are so trite that he can go through them by rote, much of his argument is likely never to have been constructed before. He has to meet new objections, interpret new evidence and make connections between elements in the situation which had not previously been co-ordinated. In short he has to innovate, and where he innovates he is not operating from habit. He is not repeating hackneyed moves. That he is now thinking what he is doing is shown not only by this fact that he is operating without precedents, but also by the fact that he is ready to recast his expression of obscurely put points, on guard against ambiguities or else on the look out for chances to exploit them, taking care not to rely on easily refutable inferences, alert in meeting objections and resolute in steering the general course of his reasoning in the direction of his final goal. It will be argued later that all these words 'ready', 'on guard', 'careful', 'on the look out' and 'resolute' are semi-dispositional, semi-episodic words. They do not signify the concomitant occurrence of extra but internal operations, nor mere capacities and tendencies to perform further operations if the need

for them should arise, but something between the two. The careful driver is not actually imagining or planning for all of the countless contingencies that might crop up; nor is he merely competent to recognise and cope with any one of them, if it should arise. He has not foreseen the runaway donkey, yet he is not unprepared for it. His readiness to cope with such emergencies would show itself in the operations he would perform, if they were to occur. But it also actually does show itself by the ways in which he converses and handles his controls even when nothing critical is taking place.

Underlying all the other features of the operations executed by the intelligent reasoner there is the cardinal feature that he reasons logically, that is, that he avoids fallacies and produces valid proofs and inferences, pertinent to the case he is making. He observes the rules of logic, as well as those of style, forensic strategy, professional etiquette and the rest. But he probably observes the rules of logic without thinking about them. He does not cite Aristotle's formulae to himself or to the court. He applies in his practice what Aristotle abstracted in his theory of such practices. He reasons with a correct method, but without considering the prescriptions of a methodology. The rules that he observes have become his way of thinking, when he is taking care; they are not external rubrics with which he has to square his thoughts. In a word, he conducts his operation efficiently, and to operate efficiently is not to perform two operations. It is to perform one operation in a certain manner or with a certain style or procedure, and the description of this *modus operandi* has to be in terms of such semi-dispositional, semi-episodic epithets as 'alert', 'careful', 'critical', 'ingenious', 'logical', etc.

What is true of arguing intelligently is, with appropriate modifications, true of other intelligent operations. The boxer, the surgeon, the poet and the salesman apply their special criteria in the performance of their special tasks, for they are trying to get things right; and they are appraised as clever, skilful, inspired or shrewd not for the ways in which they consider, if they consider at all, prescriptions for conducting their special performances, but for the ways in which they conduct those performances themselves. Whether or not the boxer plans his manoeuvres before executing them, his cleverness at boxing is decided in the light of how he fights. If he is a Hamlet of the ring, he will be condemned as an

inferior fighter, though perhaps a brilliant theorist or critic. Cleverness at fighting is exhibited in the giving and parrying of blows, not in the acceptance or rejection of propositions about blows, just as ability at reasoning is exhibited in the construction of valid arguments and the detection of fallacies, not in the avowal of logicians' formulae. Nor does the surgeon's skill function in his tongue uttering medical truths but only in his hands making the correct movements.

All this is meant not to deny or depreciate the value of intellectual operations, but only to deny that the execution of intelligent performances entails the additional execution of intellectual operations. It will be shown later (in Chapter IX), that the learning of all but the most unsophisticated knacks requires some intellectual capacity. The ability to do things in accordance with instructions necessitates understanding those instructions. So some propositional competence is a condition of acquiring any of these competences. But it does not follow that exercises of these competences require to be accompanied by exercises of propositional competences. I could not have learned to swim the breast stroke, if I had not been able to understand the lessons given me in that stroke; but I do not have to recite those lessons, when I now swim the breast stroke.

A man knowing little or nothing of medical science could not be a good surgeon, but excellence at surgery is not the same thing as knowledge of medical science; nor is it a simple product of it. The surgeon must indeed have learned from instruction, or by his own inductions and observations, a great number of truths; but he must also have learned by practice a great number of aptitudes. Even where efficient practice is the deliberate application of considered prescriptions, the intelligence involved in putting the prescriptions into practice is not identical with that involved in intellectually grasping the prescriptions. There is no contradiction, or even paradox, in describing someone as bad at practising what he is good at preaching. There have been thoughtful and original literary critics who have formulated admirable canons of prose style in execrable prose. There have been others who have employed brilliant English in the expression of the silliest theories of what constitutes good writing.

The central point that is being laboured in this chapter is of

considerable importance. It is an attack from one flank upon the category-mistake which underlies the dogma of the ghost in the machine. In unconscious reliance upon this dogma theorists and laymen alike constantly construe the adjectives by which we characterise performances as ingenious, wise, methodical, careful, witty, etc. as signalising the occurrence in someone's hidden stream of consciousness of special processes functioning as ghostly harbingers or more specifically as occult causes of the performances so characterised. They postulate an internal shadow-performance to be the real carrier of the intelligence ordinarily ascribed to the overt act, and think that in this way they explain what makes the overt act a manifestation of intelligence. They have described the overt act as an effect of a mental happening, though they stop short, of course, before raising the next question—what makes the postulated mental happenings manifestations of intelligence and not mental deficiency.

In opposition to this entire dogma, I am arguing that in describing the workings of a person's mind we are not describing a second set of shadowy operations. We are describing certain phases of his one career; namely we are describing the ways in which parts of his conduct are managed. The sense in which we 'explain' his actions is not that we infer to occult causes, but that we subsume under hypothetical and semi-hypothetical propositions. The explanation is not of the type 'the glass broke because a stone hit it', but more nearly of the different type 'the glass broke when the stone hit it, because it was brittle'. It makes no difference in theory if the performances we are appraising are operations executed silently in the agent's head, such as what he does, when duly schooled to it, in theorising, composing limericks or solving anagrams. Of course it makes a lot of difference in practice, for the examiner cannot award marks to operations which the candidate successfully keeps to himself.

But when a person talks sense aloud, ties knots, feints or sculpts, the actions which we witness are themselves the things which he is intelligently doing, though the concepts in terms of which the physicist or physiologist would describe his actions do not exhaust those which would be used by his pupils or his teachers in appraising their logic, style or technique. He is bodily active and he is mentally active, but he is not being synchronously active in two different

'places', or with two different 'engines'. There is the one activity, but it is one susceptible of and requiring more than one kind of explanatory description. Somewhat as there is no aerodynamical or physiological difference between the description of one bird as 'flying south' and of another as 'migrating', though there is a big biological difference between these descriptions, so there need be no physical or physiological differences between the descriptions of one man as gabbling and another talking sense, though the rhetorical and logical differences are enormous.

The statement 'the mind is its own place', as theorists might construe it, is not true, for the mind is not even a metaphorical 'place'. On the contrary, the chessboard, the platform, the scholar's desk, the judge's bench, the lorry-driver's seat, the studio and the football field are among its places. These are where people work and play stupidly or intelligently. 'Mind' is not the name of another person, working or frolicking behind an impenetrable screen; it is not the name of another place where work is done or games are played; and it is not the name of another tool with which work is done, or another appliance with which games are played.

(9) *Understanding and Misunderstanding.*

It is being maintained throughout this book that when we characterise people by mental predicates, we are not making untestable inferences to any ghostly processes occurring in streams of consciousness which we are debarred from visiting; we are describing the ways in which those people conduct parts of their predominantly public behaviour. True, we go beyond what we see them do and hear them say, but this going beyond is not a going behind, in the sense of making inferences to occult causes; it is going beyond in the sense of considering, in the first instance, the powers and propensities of which their actions are exercises. But this point requires expansion.

A person who cannot play chess can still watch games of chess. He sees the moves being made as clearly as does his neighbour who knows the game. But the spectator who does not know the game cannot do what his neighbour does—appreciate the stupidity or cleverness of the players. What is this difference between merely witnessing a performance and understanding what is witnessed? What, to take another example, is the difference between hearing