



4-15-1996

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DOI: <https://doi.org/10.13023/DISCLOSURE.05.03>

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Recommended Citation

Shields, Robert; Dorn, Michael L.; Schuman, Dan; and Seifen, Dorothee (1996) "Becoming Skilled in Doing What's Appropriate: The Nonreflective Rationality of Ethical Expertise," *disClosure: A Journal of Social Theory*. Vol. 5 , Article 3.

DOI: <https://doi.org/10.13023/DISCLOSURE.05.03>

Available at: <https://uknowledge.uky.edu/disclosure/vol5/iss1/3>

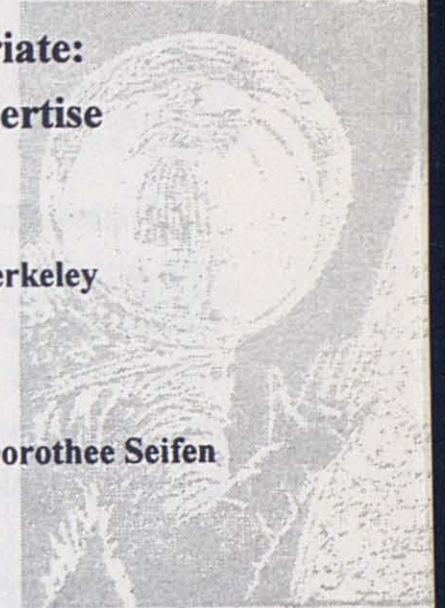
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**Becoming Skilled in Doing What's Appropriate:
The Nonreflective Rationality of Ethical Expertise**

**An Interview with Hubert Dreyfus
Department of Philosophy, University of California, Berkeley**

**Conducted by Robert Shields, Michael Dorn, Dan Schuman, Dorothee Seifen
disClosure Editorial Collective**

**Lexington, Kentucky
March 30 and April 1, 1995**



Professor Hubert Dreyfus visited the University of Kentucky as part of the Spring 1995 Social Theory Lecture Series, speaking on the topic, "The Primacy of Unreflective Rationality: Reason without Rules and Representations." We were fortunate enough to be able to talk with Professor Dreyfus during his visit about his work on topics ranging from the role of expertise in ethics to the place of the body in cognition, from Aristotle to Heidegger.

Known as a critic of the rule-governed model of rationality accepted by many cognitive scientists and artificial intelligence researchers, Dreyfus has also come to apply the same criticisms to the rule-governed view of ethical decision making advanced by thinkers such as Lawrence Kohlberg and Jürgen Habermas. Drawing upon the phenomenology of Heidegger and Merleau-Ponty, he has begun to develop a position that may provide a cognitive framework for some of the work of contemporary philosophers of the body and Care ethicists and which also finds a resonance with Aristotle's works.

Much of the interview draws on the "skill studies" that Hubert Dreyfus conducted with his brother Stuart, eventually published in their co-written book *Mind over Machine: the Power of Human Intuition and Expertise in the Era of the Computer* (Free Press 1986). In laying out their five-step model of skill acquisition, Hubert and Stuart argue that, while rules and instructions may be necessary for the

person beginning to learn a skill, to reach the level of a competent performer, the person who would continue through proficiency to become an expert must, of necessity, move beyond rules and representations to intuitive, situational, bodily responses. This expert state recalls Heidegger's descriptions of our transparent dealing with ready-to-hand equipment which does not require deliberate action and its extreme form, deliberation.¹

Professor Dreyfus has argued² that the findings of the skill studies, when carried over into the realm of moral decision-making, cast new light on the debate between Habermas (*Moral Consciousness and Communicative Action*) and Carol Gilligan (*In a Different Voice*) over the stages of moral development. In the debate, Habermas uses the work of Kohlberg to show that the highest stage of development is guided by "universal ethical principles," while Gilligan finds that the women she interviews find a sense of mature moral understanding by being more open to contextual properties of moral judgements and moral dilemmas. While Kohlberg's Stage 6 and Habermas' Stage 7 both define moral maturity in terms of the ability to detach oneself from the concrete ethical situation and act on abstract, universal, moral principles, Dreyfus sides with Gilligan in claiming that the highest form of ethical comportment is expressed in the ability to stay involved and refine one's intuitions.

The last section of the interview allows Professor Dreyfus to look back over his work on computers and cognition, from the original *What Computers Can't Do: a Critique of Artificial Reason* (Harper and Row, 1972) to the retitled third print edition, *What Computers Still Can't Do* (MIT Press, 1992). In reconsidering the bygone era of symbolic AI (artificial intelligence) enthusiasm and assessing the problems currently being faced by 'neural net' researchers, he has some striking things to say about the importance of the body in cognition—how reason is literally 'incorporated.'

¹ See Hubert Dreyfus, *Being-in-the-World: A Commentary on Heidegger's Being and Time, Division I*, MIT Press, 1991.

² See Hubert Dreyfus, "What is Moral Maturity? A Phenomenological Account of the Development of Ethical Expertise." in David Rasmussen, ed., *Universalism vs. Communitarianism: Contemporary Debates in Ethics*, MIT Press, 1990.

Introducing the models of skill and moral development

disClosure: In much of your recent writing, such as the essay "What is moral maturity?", you shed light on a discussion between philosophers adopting an ethics of detached critical morality—philosophy of the right—and those who adopt an ethics of intuitive involvement—a philosophy of the good. You claim that morality can be considered akin to other skills that a person develops with age and experience, like learning to play chess or drive a car.

How did you come to apply your work on skills to the realm of moral decision making?

Dreyfus: When I do philosophy, I don't really have a 'project,' and I don't have a 'plan' to do what I do; I try to use philosophy to understand what problems I come across. I started thinking about artificial intelligence and skill when I was at MIT. My colleagues all believed in artificial intelligence but it seemed unlikely to me. I had to find out what they were doing and try to figure out *why* it was implausible. Many years later, I heard Habermas at a discussion group at Berkeley saying that men were morally more mature than women. That struck me as strange. I began to worry about these strange results and then I read Gilligan, and I thought: Aha! this Kohlberg cognitivist view of ethics is another case of the kind of thing that I've been criticizing. What would happen if we tried to look at ethics as a skill and tried to apply my brother's skill model, and I amazed at how it came out. I agreed with Gilligan. Women, in so far as they are intuitive, don't try to base their decisions on rules, but have a higher form of moral maturity than those who do.

I originally presented these ideas as the Gurwitsch Lecture at the Society for Phenomenology and Existentialist Philosophy. I didn't go into the Habermas side of it very much, since I was mostly interested in just laying out Gilligan's account of what it is to have a moral skill. Then, somebody wanted to publish it in a book of papers on Habermas. I began to read the whole story, where Habermas answers her, and she answers Habermas, and they have 'stand-ins' who answer each other, and I decided that Gilligan and her followers were still ahead after several rounds and that's about it.

disClosure: How did you go about making that decision?

Dreyfus: Well, I just looked at the Kohlberg model of the six stages people supposedly go through in acquiring ethical maturity or expertise, and they looked like the very early steps that one goes through in acquiring any skill. In general,

when you finally get moral maturity, the story goes, you can justify what you do by stating the principles on which you base your response. That looked exactly like the first stage of skill acquisition on my story, where before you have any skill at all, you have to have some sort of rule to follow—in chess you have to follow the rule, "trade to gain points" and you have to learn what each piece is worth, because you know nothing about chess. A rule like "always tell the truth" has the same kind of context-free, rigid, beginner sort of quality that an alien coming into a culture from the outside would display.

Lying is a good example because it seems to me the more morally sophisticated one gets, the more one realizes one can't always tell the truth. Say somebody is very sick and they ask you, "do I look bad?" Responding, "boy, do you look bad!" is just not sensible! And there are all kinds of situations like this. For example, according to Kant, if a murderer comes to the door asking whether a friend of yours is in the house—he's out to murder this person and you know it, and the friend *is* in the house—then you ought to tell the truth, and say: "Yes, my friend is hiding in the living room". This seems obviously wrong, it seems analogous to following the strict rule in chess: "Always trade when you can gain points." It just doesn't work. After your friend was killed, you would try to correct this rule and say: "Well, maybe I should only tell the truth when nobody is going to get hurt," and that would be, instead of a strict rule, a kind of a maxim, it would be at least situational, and that would work much better, that is produce results you could live with.

Similarly, in driving, if you have the rule: "Shift every time the speedometer points at ten miles an hour"... you followed it, the car would stall on hills and then you would know you had done something wrong, so you would find a better rule like: "Shift when the motor sounds like it's straining"—a rule that is flexible. But in ethics there won't be any tests of success or failure. This bothered me, but then I saw, you either feel regret or you feel good about what you did. That's a difficult thing, it requires that you have some sort of innate moral sensibility or else you acquire some sort of cultural moral sensibility. If you don't feel the appropriate—appropriate for your culture—regrets when you do something wrong, and feel good about it when you do something right, you never become a moral person in your culture. Otherwise you would even be like somebody who enjoyed skidding around curves. They would never become a good driver—never by our standards—although they might become a good stunt driver!

disClosure: So there are certain emotional faculties, certain sensibilities that are preconditions for the development of expertise?

Dreyfus: So it seems. And I don't know where to turn to find out more about it. I'd have to start with just that: that you do feel regret, and you do feel good about what you do.

Going back to truth: let's suppose the next time somebody tells the truth, they tell it in a more nuanced way so nobody gets hurt, and that works better—they feel better about it. But there are still times when—who knows?—it would still be necessary to lie. Being trustworthy doesn't mean you can be counted on always to tell the truth, it means you have developed a kind of maturity where you do the appropriate thing. As Aristotle would say: "You do the appropriate thing, at the appropriate time, in the appropriate way." That sometimes means being evasive, sometimes telling outright lies and sometimes telling the truth—that's a kind of maturity.

disClosure: It still seems that our life is structured in some way by rules, as far as what is proper and what is not, in the same way that a chess game is structured by rules. How do these rules relate to certain strategic maxims? What different kinds of rules could there be and how are these rules determined? How do they develop?

Dreyfus: I think the rules just gradually develop until at some point, if it's important, they get codified, like in the case of money. But if it isn't that important, they'll never get codified. Rules for turn taking in conversations, which are different in different cultures, must have developed gradually and nobody followed them on purpose. Nobody except ethnomethodologists ever codify them, and when they do, you say: "Gee! that's right!" I just read one the other day that was wonderful—that you can never get off the telephone without saying "OK" at least twice. It's absolutely right! When you start getting ready to stop talking to somebody, you say OK, and then they say OK, and then you say OK, and then they say OK, and then you can hang up. That's an example where no one consciously made a rule, and it didn't need to be codified. People just picked it up. It's a skill for talking on the phone.

disClosure: But what if rules require change? Embedded in the built environment is a system of spatial rules that we follow. It's been assumed that these rules would equip certain people to get around, but, not those in wheelchairs, not those who are pushing baby strollers....

Dreyfus: There has to be some kind of a break down. That would be the Heidegger/Dewey way of looking at it. When enough people feel unhappy like those who are in wheelchairs and pushing strollers, they stop taking it for granted that they have no access to the streets and the sidewalks and—they call attention to this.

Then the equipment and the rules changed. Again, it wasn't because there was any explicit rule; it just grew up that way, and then there was a breakdown, and then, when there is a breakdown, you can look back and see the rule-like nature of what has happened.

disClosure: So, in that case, one could argue that creating a breakdown would actually be an ethical act. Because a whole series of breakdowns would then require a restructuring of rules.

Dreyfus: But the first person would just have a spontaneous breakdown. They would have to become frustrated to the point of realizing what a mess it was making of their lives. Then they could cause other breakdowns to make other people notice it. I wonder if that actually happens? Can you think of any examples?

disClosure: Well, I'm thinking of the case of disabled people in Denver, Colorado, who actually got frustrated about the lack of access to the public transit system and so, at bus stops, they would transfer onto the steps of busses, in order to cause systematic breakdown in the bus system. By doing this regularly, they required the city administrators to address their needs.

Dreyfus: Hmm. A civil disobedience kind of breakdown. It seems plausible.

disClosure: Unfortunately, another kind of breakdown is exhibited in the movie *Falling Down*, where the protagonist takes the Uzi and starts attacking the system. The question then becomes, which one is the appropriate way of breaking the system down, and which isn't? Is Kevorkian actually breaking the system down in an acceptable way?

Dreyfus: That's a good one. That's right, he's a good example of somebody challenging implicit ethical principles, or even, in this case, codified ethical principles. And he is doing it out of a sense of pain, a sense for the failure of the rules that people experience.

Letting experts be experts

disClosure: You write that involved intuitive deliberation can yield different responses, so how are we to know who is the ethical expert and who is the fraud, and is that a judgment that can be made at all?

Dreyfus: It really bothered me, but again, I came out exactly where Aristotle came out. He obviously had to face all the same problems. The only one who can judge an ethical expert is another ethical expert. Only one *phronemous* can recognize another *phronemous*. That seems the only thing to say. I know an interesting story, where there was a series of videos made of paramedics giving people CPR. They made videos of beginners doing it, competent people doing it, and real experts doing it; these videos were shown to beginners and competent people and real experts. Members of each group were given the question: Who are beginners, who competent and who expert? The beginners couldn't tell—that's not interesting—but competent people thought the other competent people were the experts, because they were following the very rules that the competent people were following, and only the experts could recognize the experts, because the experts weren't following any rules. The experts were just doing the appropriate thing at the appropriate moment. The point is there's not going to be any check outside of the system. Only the experts will know whether what somebody did was the appropriate thing.

It's a situation where you have to pull yourself up by your bootstraps. There will be people around who claim to be experts, and other people who also claim to be experts, but some of them really will be experts, and they will recognize the other ones who are really experts, and know who are the ones who are just claiming to be experts. And the experts will eventually get together, and approve of each other and disapprove of the ones that they can easily recognize as not experts. I think that's how Aristotle thinks about it. We find out who are the wise *phronomai* and who are the people with practical wisdom in a culture, and trust their judgment.

It's a weird phenomenon that there is no appeal outside. Of course, there can't be any appeal outside, since there are no rules. The man of practical reason can't explain the principles he uses to decide what to do. There is no standard on the basis of which to say, "this was the right thing to do—it fits this principle—and this was the wrong thing to do—it broke this rule." Once you get to this level, where there's just intuitive response, it has to be the other experts who decide. In tennis or driving, you're lucky enough to have an external criterion such as "it works if you're good at it." Obviously that's not the way it works in the morality business.

disClosure: What distinguishes an expert as an ethical expert?

Dreyfus: Well, I don't know except that an ethical expert is a person who does what the people of his culture consider the appropriate thing where other people are concerned. It can't just be you do the appropriate thing because it isn't a question of

planting your corn at the appropriate time. There's got to be something special about ethics, and all I can think of is doing the appropriate thing *with people*. And I'm not sure it's even just where other people are concerned because it isn't just the appropriate thing such as greeting them on the street appropriately—there's a lot of etiquette and that isn't ethics.

disClosure: Well, what's the role of the philosopher, then? I mean, we're talking about what ethical experts are, and whether or not they're aware of their own expertise, how does the philosopher fit in?

Dreyfus: Aristotle thought that you could take these morally mature people, and then you could give them a course which would articulate for them the values of the culture, like rationality and so forth, which would enable them to have an intellectual grasp of what they were doing. I don't think you could make a practically wise person any wiser by giving him a rational reconstruction of the virtues. Aristotle certainly said that you already had to be morally good to take his ethics course, or it wouldn't do you any good. There's an important article about this by Miles Burnyeat on what you need to have already in order to take Aristotle's ethics course, and I am drawing on that.

disClosure: Does ethical expertise require talent? We do not consider people to be blameworthy if they are not *expert* chess players or drivers or pianists because it involves a kind of talent that transcends practicing. One might practice and practice yet never be a chess master. Does this skills model suggest that we cannot blame some one for never morally mastering themselves? Should we hold people responsible or blameworthy for being ethical novices?

Dreyfus: I think that is a very interesting question; nobody's ever asked me that, before, and I've never asked myself that before. Of course we can't expect everybody to be ethical experts—they're not all going to be *phronemai*, men and women of practical wisdom. I guess you can only hope that they be competent—that they generally do the appropriate thing. They would be like middle level chess players. Being ethical obviously takes two kinds of talent. It takes the right sensibility—feeling remorse about what the culture takes to be the right things, feeling elated and proud when you've done the right thing, and so forth—and, the more discriminating sensibility you have, the better. The other talent that it takes is to stay involved and to actually face your regrets or your happiness.

There's a story about that from nurses. Patricia Benner has applied the skill model to nursing and written books about it. It turns out that nurses reach a point where they are competent, and the question is whether they will go on to become expert nurses, or whether they will burn out, and give up. One of the decisive factors seems to be how much they will let themselves get involved in what they are doing. At issue is not only whether their patients recover but whether they are able to help their patient die with dignity, and whether the family is brought in the right way, etc. If that happens, then these nurses feel really good about it. The ones that do it wrong feel really bad. The others for whom it's too painful to face their failures don't get involved; they treat it like a business and never develop beyond competent. They burn out because if you're only competent you have so many rules to follow and so many features, maxims and aspects to take account of that it is a stressful job, but if you let yourself be involved, then you can go on and become an expert, in which case it becomes a lot less stressful, because you aren't solving problems and making decisions any more, you just know what to do.

So, it looks like some people get stuck at competent. They either don't have sensitivity to what's happened, or, they are afraid to feel the remorse, and so forth. But then there do seem to be a few people who have no talent for it at all, and you ask whether we blame them or what we do. I think we call them psychopaths, and we lock them up. Those are people that just—like autistic people in other domains—don't seem to have responses that would enable them to learn ethical skills. They have no guilt at all, people say about psychopaths, they never feel remorse, so they never learn anything in ethics. We don't even blame them, I take it. We say they are sick, or they are defective in some way, and we lock them up.

disClosure: Can this discussion still lay responsibility for the inability to develop expertise, moral or skill expertise, on the individual?

Dreyfus: There's another factor. You have to come from a good family. Aristotle wouldn't take people in his ethics course that didn't come from a good family, because unless you have good examples, you won't have the right sensibility, or the models to imitate. Imitation is a large part of learning a skill. If you imitate unjust people you become an unjust person. So, it isn't an individual thing. It's a real disadvantage to be raised in a family of people who haven't got the sensibility and haven't got the skills.

disClosure: Would you care to say more about how your model of involved reason plays over into the social-political realm? What is the role of moral agents,

not just in terms of individual behavior, but also in terms of expertise and agency in a larger political and governmental setting? Secondly, how can one conceive of these problems of expertise and power in terms of the Foucault knowledge/power relation?

Dreyfus: The disquieting implication is that you have got to trust the expert to tell you what to do, and not try to get the expert to break down his recommendations into rules and features. If a ballistic expert comes before a jury saying, "I've seen lots of bullets and lots of guns and I can just tell you that this bullet came from this gun," the jury would not get satisfactory answers by asking, "Well, how do you know that? What are the features?" Some second-rate, nearly competent, ballistics expert can come along and say, "Well its these lines on the bullet, these lines on the gun," and have a pointer and a chart and show the jury all that. Let's say he concludes that the bullet didn't come from the gun, and a lot hangs on this. I say, the jury should listen to the guy who has had a hundred percent batting record with the last 20 bullets and guns but can't explain how he got the answer that this bullet came from this gun, rather than heed the guy who has an explanation in terms of features and rules. If he has an explanation in terms of features and rules, he is either just faking and making it up to retroactively rationalize his intuitions, or else he really is *getting* the answer by his feature and rules, at which point he is at best a competent performer.

But now, that puts you in the awkward position of not being able to second-guess the expert, and say, "Well, why not use these principles and these features." And if it turns out that the features and principles involved are preferences and so forth, then it becomes really difficult and murky. The 'moral expert,' like the *phronemous* of Aristotle, knows what to do, but he can't explain how he reached his conclusion. So here, for example, would be someone advising doctors that the moral thing to do is to turn off the life support system. Naturally they want to know, "What weight did you put on the guy's life and on the interests of his family, and on the value of the insurance, and on the life-support system he was monopolizing? How did you arrive at your conclusion to turn off the support system?" and the guy just says, "Well, I have done it a lot, and I have regretted it sometimes, and I felt good about it sometimes, and by now I just know when to turn it off," which is what any experienced doctor would say. It makes you feel rather creepy.

disClosure: One of the reasons it makes you feel creepy is because this *phronemous* has been conditioned. He has been feeling good or feeling bad about his decisions based on a certain community of experts within which he is interact-

ing. Now isn't there often the problem that the community of experts that certifies who is indeed the *phronemous*, is actually divorced from the field within which this expertise is being delivered. You can't interview the person who was taken off life support....

Dreyfus: That's right. But you can ask the family how they feel about it 5 years later. And you can ask the other person that got saved instead, because he got the kidney machine, how he feels about it a year later, and the doctor is going to feel some way about it. Of course you are right, we have this funny fact, one of the important factors is how *other* people who are taken to be the wise people in the field feel about it. But there is no other way. The alternative is a bunch of rules for when to do it and when not to do it, and weights to put on all those factors, and that is going to be impersonal, incompetent. I would rather be connected or disconnected from the support system by a wise old doctor than by a computer or a human being with a check-list of questions and answers, which really comes to the same thing as a computer.

disClosure: How would you deal with groups of disabled people, for example, who see that doctors, given the cultural tradition within which they are trained in medical school, tend to devalue disabled people's lives?

Dreyfus: The trouble is that now the people in medical school are raised in technomedicine, where they measure the trade-offs between how much a person's life is worth, how much equipment they are using, how much money they are using, what good they are producing in their community, etc. The nurses that I know would say, "That is dangerous. You have got to live with the people concerned in a caring way, and that if you do, then your conclusions about how much support to give them are much more humane."

I got an amazing new insight talking to leukemia doctors, who have to make many life and death decisions for their patients. They were so happy to hear what I was telling them, it was like a political speech instead of a philosophy talk. When I said, "People think that if you can't explain how you got the answer you don't really understand, but the truth is that if you *can* explain how you got the answer then you don't really understand," they interrupted for applause. They said they are forced by government agencies to rationalize their conclusions and give the rules and features that they know they didn't use in getting the results. And then, Socrates-like, these agencies complain that the doctor's rules and features don't produce the conclusion they are recommending. It is a double-bind. The agencies make the doctors ra-

tionalize, and then point out to them that their rationalizations couldn't be right. The doctors are upset, and the skill story accounts *exactly* for the bind they're in.

Reflectivity and discursivity

disClosure: In your account of skill, you make the distinction between reflective rationality and non-reflective rationality. How does this relate to the distinction other writers make between discursive and non-discursive?

Dreyfus: I take you to be talking about the distinction between discursive and non-discursive practices, in Foucault, for example, and I take that to mean practices involving language and practices not involving language. Basically, they do map. Normal non-reflective skill is non-discursive, because the expert makes discriminations for which there is no language. Think about surgery. Surgeons must have thousands of different ways of cutting. They probably only have names for four or five ways of cutting. When they are acting non-reflectively, they are operating with all of these discriminations that are also non-linguistic. Not in any essential way non-linguistic, but just in fact not named. But when you are reflecting, you *have* to do it linguistically. I can't see how you can reflect, except by talking to yourself in language: "Look I tried that and it didn't work, and maybe it was because of that, and so forth." I wonder if there is a non-linguistic kind of reflection. I guess there is, in a way. I'll give you an example that is probably linguistic, but then I'll give you another example which isn't linguistic. We will see which is best.

Somebody in the Air Force, a Lieutenant Jack Thorpe, was having a fight with his superiors over what was called boldface. This was the attempt to capture pilot emergency behavior by writing a set of rules, training pilots to cope with emergencies by making them memorize these rules, and checking to see if they were able to cope with emergencies by giving them a test every few months on these rules. Thorpe, who was a smart psychology Ph.D. in the Army at the time, thought this was crazy. He was backing what he calls situational emergency training, where the pilots would be put into simulated emergencies and get feedback as to whether their responses worked.

I had published *What Computers Can't Do*, because I was opposed to the rule-based AI proposed at MIT. Thorpe was on to the same skill story. He read my book and thought that he could gain some clout by having a well known MIT professor agree with him. So he came and offered some research money if I would think about pilot emergency training, and I said, "No thanks. I don't know anything

about pilots and I don't know anything about skills, so I can't do it," but then my brother, Stuart said, "Oh, come on, let's try." So we were given a grant by the Air Force, and we thought, "We don't know anything about pilots and planes, we'll just think about cars and drivers, and then we will just change it to planes and pilots when we hand it over to Jack Thorpe."

That's what we did, and that was a good start. The Air Force never noticed or minded, because the story was general enough. Moreover, Stuart started thinking about skills in a way that I couldn't, because I was a philosopher corrupted by Plato and Socrates, and I hadn't read much of Aristotle or Dewey, which might have saved me. I knew the main Rationalist tradition, Kant, Husserl, Piaget and so forth. According to these guys, skills were internalized rules. I thought it was obvious. We start with concrete examples, and little by little we abstract more and more sophisticated heuristic rules. That is what everyone believes. That's what everybody told me since I started doing philosophy. And my brother, who had never read a philosophy book in his life—he is a mathematician and had hardly read a novel either, for that matter—and was therefore untouched by the Western Humanistic tradition, just started asking himself, "What did I do when I learned to drive, and what did I do when I learned to play chess?" (He is a good chess player.) So we developed this story, and the Air Force supported us and was happy with it.

Among the Air Force documents, we found the following funny thing. The instructor pilots teach the beginning pilots a rule for scanning the instruments in a certain order. The new pilots believe that all pilots follow these rules, and they pass this knowledge on. But once the Air Force psychologists connected a tracking device to the pilots eyes so that they could follow their eye movements. They discovered that the instructor pilots do not at all follow the rules that they learned and that they teach. They had developed a skill for scanning instruments in different orders in different situations, and they had become experts. This is the *most interesting* case, because they never even knew that they had become experts, and left rules behind. But they had.

This is again a cases like that of the competent teachers who recognized other competent people in the paramedics example, thinking that because they were following the rules these people were teaching them, they must be doing the right thing. But teachers never do the expert thing. It is not their job to be experts. It is their job to be competent and to get people up to competence. Then it is the job of teachers to get out of the way and let people go on to be experts. That's what the

instructor pilots were doing, not because they knew it, but just because that was how skills develop.

Now for a second, non-linguistic example. You can get into something called "tunnel vision," where you are led little by little into seeing a situation in a completely inappropriate way. Each step is a sensible thing to do, but you are going down a wrong path. The best example I know is an Israeli pilot that my brother and I interviewed. During the Israel-Egypt War, he had shot down a very good opponent, and then came across another opponent. He immediately took this other opponent as another skilled pilot, but nothing he did worked. The opponent always seemed too shrewd and did surprising things. The Israeli was getting into serious trouble, but then he realized that his opponent was a total beginner, and that what was making him so surprising was that he was doing everything wrong. And then he shot him down immediately, because he had just re-*Gestalted* the situation.

A *Gestalt* switch that doesn't require words. A parallel story would be what happens when you look at a Necker cube, which is a kind of cube that flips. You can get set in looking at it with a certain plane as the front surface. Then you can change it by concentrating on one of the back vertices. If you concentrate on it you will flip it to the front. That is an example of flipping a situation by paying attention to some detail, and it doesn't seem to be linguistic. Maybe if the Israeli pilot had paid attention to how the enemy pilot took so long to come back after swooping by in a certain way, the whole thing would have flipped around and he would have realized, "Oh yes, I remember, that's how everybody does it at first."

So the moral of these stories is that reflective equals linguistic, and non-reflective is like intuitive. You can't do the intuitive things linguistically, because there are no names for all the things that you have to discriminate. I don't know whether you do the non-linguistic things we are talking about in a reflective way. I have a feeling you *can* sometimes and you *can't* sometimes.

disClosure: Your model as we have discussed it still seems to accept the division, although strongly stressing the connection, between reflective reason and the skills of the body. Would it even be possible, then, to question *that* as a viable division; is there any use to keeping the notion of reflective reason? Is it possible that reflective reason is itself one more bodily skill, rather than something that has to be *embedded* in bodily skill?

Dreyfus: Well, reflective reason is certainly different from non-reflective intuition, although it too has to be embedded in bodily skill. Phenomenologically you can certainly tell the difference between thinking through a problem step by step, and responding immediately and intuitively and appropriately to the current situation. 'Reflective' has never been a really good name for this working through, but I want to discriminate deliberation from spontaneous intuitive responses, even though deliberation only works on a background of spontaneous familiarity. Deliberation is certainly different than being in flow. That distinction is just in the phenomenon.

disClosure: It seems that, if one applies rules to behavior only after one acts, then there would be an epiphenomenal quality to deliberative reason, as your model describes it.

Dreyfus: No, no! If the only way to deal with an unfamiliar situation is to think through it step by step like a puzzle or a problem, then that's not epiphenomenal. It isn't as if I intuitively solve it and then only epiphenomenally think it over. It has to be solved step by step.

Incidentally, of course the cognitivists think just the opposite—that the intuitive reaction is an epiphenomenon, that unconsciously we always solve every problem step by step, just very fast, then have the idea that we just intuitively respond. That is the cognitivist idea, that's why it is called *cognitivism*. Perception is problem-solving, a skill is problem-solving, everything is unconscious problem-solving. So it really is what you just said turned upside-down.

disClosure: Your skills model relies heavily upon your interpretation of Heidegger and other phenomenologists. Given that Heidegger's existential analytic in *Being and Time* is conspicuously devoid of ethical content, is it appropriate to use his model of ready-to-hand being-in-the-world as a prototype or foundation for an ethics of involvement? Does its extreme formalism preclude an ethics?

Dreyfus: Heidegger has all the ethical content in *Being and Time* that he could have or should have. People who say that there is no ethics in *Being and Time*, I think are just plain wrong. First, the background of it. According to Theodore Kisiel's book *The Genesis of Heidegger's Being and Time*, the original *Being and Time* was supposed to be a book on Aristotle, and Division 1 was on *techne*—that is on skills—and Division 2 was supposed to be on *phronesis*. It made me very happy when I read that, because I've always thought that authenticity was about *phronesis*. That is, the authentic person, Heidegger says, responds to the unique situation,

whereas the inauthentic person responds to what he calls "the general situation." Responding to the unique situation, Heidegger says, the authentic resolute person does the appropriate thing at the appropriate time in the appropriate way. That phrase actually appears in there. So what looks like a lack of ethics, is really something like all the ethics you can have if you want to say something about ethics expertise that is cross-cultural. The only step after that would be to fill in which skills are good in which culture, that is *existentielle*, Heidegger would say. And that gets us back to your question ... since *Being and Time* is an existential analytic, Heidegger is not going to go on like Aristotle, and tell you what the virtues are. What Heidegger says about conscience also bears on this question of the discursive and the non-discursive. Conscience talks to you, Heidegger says, but if conscience says anything to you in words, don't believe it, because it is only telling you what one does in the general situation. It is only when conscience speaks to you silently that it is authentic.

The critique of disembodied reason: 25 years in retrospect

disClosure: Much of your writing is a critique of what you call "the Platonic tradition" which detaches human reason in some way from the lived world. One important aspect of our lived world is our embodiment. In *What Computers Can't Do*, you criticize attempts to create an artificial intelligence for not taking into account how reason is embodied. It seems that in 1972, you mainly had to defend the proposal that embodiment might matter to human thought against those who assumed it didn't, rather than developing a larger account of how bodies matter to reason. Would you care to elaborate your account of the relationship between body and cognition?

Dreyfus: For 25 years I have been trying to spell out, never satisfactorily, that one of the reasons that computers can't be intelligent—the *most important reason*—is that they don't have bodies. I haven't said it this way before, but this is how I think about it now: everything about the world we live in is set up *by* people with bodies *for* people with bodies. A computer that didn't have a body would be more alien in this world than a Martian or a porpoise supposing that Martians have some kind of body. The size of things, whether they are reachable, whether they are graspable, that we have to move toward things along a clear path, that we move forwards more easily than backward, can cope with things in front of us, not behind us, that our world has a right and a left, an up and a down, and so forth—all that permeates our perception and even our thinking, though I can't figure how to show that

in detail. If it does, then computers are at an *incredible* disadvantage, to say the least, if they don't have bodies.

Mark Johnson is best at suggesting how the fact such as that we have to have a clear path to get to things and we have to grasp things to use them plays a role even in our reasoning. The tradition holds that thinking is one thing and embodiment, perceiving and acting is another. Mark Johnson (*The Body in the Mind*) shows that we use body metaphors in thinking, like when we talk about balancing our checkbooks. We don't just *talk* that way; our intuition about how to do it is based upon our experience of balancing, likewise our way of going step-by-step to a conclusion is based on the path model. I think that is terrific, and I quote Johnson a lot in the introduction to the latest edition of my book, now called *What Computers Still Can't Do*. But there is something missing in Johnson's argument, which I can't supply: the argument will only work when you can show that these metaphors are *necessary*. He just says, "Look at all the metaphors we need to comprehend what it means to reason and solve problems and so forth." And that is fine, but the computer people will only be defeated when you can show that we have to have an experience of how the body works first, and only then can we make up the kind of metaphors that give us the ability to do the kind of reasoning that we do.

disClosure: I'm not sure it could ever be shown that it is necessary to use body metaphors. It seems the most one could show was that it was necessary to use the body to learn any skill, as far as child development goes, as far as socialization goes. Games played through the body are the only way in which one could develop any of these skills.

Dreyfus: That might be true. And that would explain, among other things, why these body metaphors permeate all of our cognitive vocabulary. But there are still going to be people who think that even if you do show the developmental necessity of embodiment, finally the child reaches a point where her rationality just takes off and leaves the embodied way it got to that point. It would be a kind of genetic fallacy, from the point of view of the AI people, to say that you have to use your body to achieve rationality. It doesn't show you need your body now. One wants to show that you just can't have a machine that reasons and so forth the way we reason, *without at that very time* using its sense of its body. The intuition in Mark Johnson is that doing these abstract thinking—class inclusion, and so forth—is so ineffable that, unless we map it on to something like body inclusion, we are not able to think about it. You are always appealing to the intuition of space and time to make sense of these abstract relationships.

Somebody has actually tried to show that our intuition of space/time depends on our bodies. Sam Todes, in a book that is very hard to find and expensive, called *The Body as Material Subject of the World*, tries to show that our experience of space/time is based upon our bodies: the way we move forward more easily than backward turns out to be necessary to construct time as an asymmetrical succession, and our orientation of front/back, right/left turns out to be necessary for the construction of space.

Different group of AI researchers run into different sorts of problems trying to construct a disembodied intelligence. The symbolic AI people couldn't understand common sense knowledge without bringing in a description of the body. So they had to build into their common sense knowledge base that we have bodies, that they move forward and backward, that they have to balance and if they fall asleep they fall over, and other facts that we don't have to figure out but we just know. And it turns out to be so hard to write down all of the stuff that we just know by having a body as facts about the body, that they end up failing.

Then come the neural net people, who say, "Don't write it down. Don't try to make rules. Just expose the neural network to more and more input, and give it the right answer—*train the network*." According to my brother, who now teaches network stuff, the neural net people also run up against the body problem. The big problem in neural networks is that they have to respond to. Take a hypothetical example, you train a network on a bunch of chess positions, each paired with the right move—50,000 positions, say—and then you give it another position that it has never seen before. It is supposed to make an appropriate move. But to do that it has to see the new position as similar to some position it has already been given, and make a move similar to the move that it has already made. It would always take the input as similar to something it has already seen. That is how networks work. But will it respond to the same similarity that we respond to? That is the big question.

Everything is similar to everything in an indefinitely large number of ways—this is a Nelson Goodman point. This coffee cup and I are very similar: we are material objects, we are in this room, in Lexington, Kentucky, reflecting light, and came into being at a certain time, etc. I have endless properties in common with this cup, and of course lots and lots I don't have in common with this cup. There is no right answer to what is similar to what, what is different from what. Everything is similar to and different from everything else. The neural network has to experience *our* similarities, because it is *our* world we want it to understand. What we take to be similar to what is a function of our body in at least three ways. First we see

similarities because of the way our brains are structured, which is a certain way of bringing in the body, though it is not a phenomenological way. Secondly, it is a question of the way our body is actually built: these two objects are both graspable; these are both within reach; these are symmetrical and so forth. Lots of what looks similar to what, looks similar because we all have similar bodies. Finally, what looks similar to what has to do with our desires and emotions which is again an embodied sort of thing. That is similar to that because both are pleasant and this is similar to this because it is scary, and so forth. Without a body the neural net would end up just as badly off as a symbolic AI system, but for different reasons.

So it turns out that when you try to *describe* the body in symbolic AI, you can't do it. And if you try to get around dealing with the body by just training a network, it needs the body first in order to be trained.

disClosure: So, the fact would be that you *could* train a neural network, but it would always be constrained by the number of bodies it was modeled on.

Dreyfus: Well, that is not how I would put it. I would say you can't train a neural network, because you can't build into it the characteristics of the body that make us see the similarities we see. So it is always just luck when a neural network learns the right things. And you hear about the neural networks that *do* learn the right things. Every once in a while, either by constraining the problem to be very simple, or by just happening to get the neuron weights right, a network does interesting things. But unless it had a body like ours with receptors like ours that moved around like ours and had feelings like ours, it couldn't learn to get around in our world. Because it wouldn't see things as similar that we see as similar.

On a television program, Douglas Lenat, brought up the case of a woman named Madeleine to challenge my views. "Madeleine" is her case name in the story "Hands" in Oliver Sacks' book *The Man Who Mistook His Wife For a Hat*. She is blind and has had been paralyzed all her life. According to Sacks' account, everything she knew was from books people read to her. She couldn't feel anything and couldn't move her hands around, so she couldn't read Braille. So the question arises, "How is Madeleine able to understand the similarities we see, and so understand our concepts?" It looks like a counter-example to Mark Johnson's and Merleau-Ponty's and my account.

But Madeleine needs many embodied skills, even though she spends all of her time just sitting in this chair. She still has to balance herself. She gets pushed

around and knows that she has to be pushed around things when they are in front of her and can't cope with the things that are behind her. And she knows all the interpersonal stuff: how she gets upset, how to get other people upset, and how to talk to people so as they *don't* get upset. She must have a minimal amount of embodiment in order for these stories to make sense for her at all, and for her to be able to project what she learns from the stories into new situation, which she can do.

It would be useful to study people who have very minimal use of their bodies, who are minimally embodied, to see how they are able to do things. Of course, if they've been raised as an able-bodied child like Stephen Hawking, it's not interesting. He learned all he knows while he was moving around in a normal body. But suppose someone was born like Hawking, just barely able to move a finger and their eyes. Could they acquire the ability to understand things? If they could, it would be a serious objection to me and to Mark Johnston. But there would still be some embodiment left. Inner and outer, forward and backward, one's ability to balance. Maybe what one would discover is that even this minimally embodied person had just those things that one needs. There is a research project for somebody.

disClosure: What we would consider minimal embodiment—the state of people who only have use of certain basic motor functions—would still be quite a lot to try to replicate.

Dreyfus: But we would like to know how minimal a body you have and still understand concepts and perceive the world the way we perceive it. I have no idea.... It seems to me you don't need much body to do it.

disClosure: There have been psychologists who have looked at the current situation of mentally retarded people and argued that they should not have been deinstitutionalized because they could not engage in the kind of higher cognitive functions that would allow them to construct routes and find their way around a built environment. Would you agree that these kinds of arguments that assume people need to develop cognitive maps of their terrain will devalue mentally retarded people's means of skillful coping?

Dreyfus: Yes, that would be a mistake, wouldn't it? There are stories of South Sea Island people that do a kind of navigation outside of anything that we recognize—traveling to somewhere else with great precision by day or night. I don't think they even use the stars. They just use the winds and the sounds of the waves on the boat and so forth, and, of course, they don't know how they do it. They don't have a

cognitive map, they just go from familiar situation to familiar situation. Mentally retarded people might be able to get along the same way, but what we want to know is whether someone with use of the body could understand concepts? Could they form cognitive maps? Not because we want to lock them up if they can't, but because we want to find out how much embodiment is necessary for understanding disembodied concepts.

Being a learning body? Learning to be an expert body.

disClosure: So there is a possibility of learning skills non-discursively?

Dreyfus: There are cultures where people acquire almost everything they know, at very high skill levels, without any rules. Teachers of Indonesian dance, I have been told, just go over and move limbs and hands into the right positions.

We've got the equivalent in Timothy Gollwey (*Inner Tennis*), a very famous and successful tennis teacher, who teaches people how to play tennis strictly by imitation and never gives them any rules—never even tells them how to hold the racket. He just hands you the racket so that you grasp it in the right way, and gives you rules—like you have to know which way the seam of the ball is turning when you hit it—to keep your mind off of what is really happening. I was actually coached by him just to see how he did it. And he gives you no guidelines. He doesn't even give you an example of how to do it. He thinks your body will just take the naturally best way. I guess it all depends on transfer of skills: you *do* know how to run, you know how to hit things, you know how to keep your eye on things, and if you just let people do that, and learn from their mistakes, they will get to be very good, very fast. There is no question about it, you don't need rules. This goes for children as well. Children learn a huge amount of the skills of their culture before they ever get to the stage where you could even give them rules.

My basic point is *not* that one needs rules to acquire a skill, but the opposite—that one can't use rules and reflection to produce the highest level of skilled behavior. I am prepared to give up the first stages of my skill model for a culture where people get to expertise without any rules. But there do seem to be things that you *couldn't learn* without learning the rules: the idea that you could pick up chess just by watching people play chess seems to me extremely implausible. But that's just because it happens to be a very complex game.

disClosure: When one is functioning as an expert, where does agency reside?

Dreyfus: It is in your experience of what you are doing as “letting it happen.” In playing tennis, for example, let yourself be absorbed and let your arm go up to the right place. You are not a willful agent trying to decide where to put your arm. The agency part is that you are not stopping it and taking it over, but letting it happen. That, it seems to me, is all that is left of agency.

disClosure: But then there’s also conditions of the environment letting this happen?

Dreyfus: Yes, you are responding to the environment, which is making it happen. But you are an agent, unlike a stream running down a hill—which is also responding to the situation by doing the appropriate thing in the appropriate way, as it is getting to the bottom in the most efficient way. You have the sense of letting it happen, and you have the sense that you could stop it.

disClosure: One of the arguments that Elizabeth Grosz made when she visited the University of Kentucky earlier in the semester is that in the pre-reflective state, or what she would call, the “deterritorialized body,” each limb or part of the body can assume its own agency. So when you are holding a cup, the hand knows how to hold the cup. It doesn’t necessarily have to go into processing in the brain.

Dreyfus: That sounds good. I guess I wouldn’t want to call it agency. If I am going to stick to my view that agency is the sense that I am letting it happen, but that I could stop it, I don’t think the *hand* has that, I think *I* have that. But if agency is what I would call “skillful coping,” then it does seem to me that you could say, “Yes, this person doesn’t even have to think about it there.” Take my example of shifting gears in a stick-shift car. My foot does it. I don’t even have to be aware of stepping on the clutch. The action goes on at a level that does not have to pass through consciousness at all. So you might as well say that your foot does it, but I wouldn’t want to say that my foot had agency, because I wouldn’t also say that my foot has the sense that it is just letting it happen and that it could stop doing it.

disClosure: Doesn’t that set up a really strong mind/body dichotomy, though?

Dreyfus: I don’t think so, because the boundary is fluid. I take over my hand immediately if there is any problem. That is another aspect of agency, that I am ready to step in and act in an un-ready-to-hand, deliberate way. You can deliberately pay attention, without doing it with deliberation, which would be really solving a problem. If the clutch sticks, my foot immediately passes the command to me,

and I have to try to figure out whether to jam on the brake, or stay in the gear I am in, or something else. It doesn’t seem to me a dangerous dichotomy, because I don’t say that they are two sorts of being, I don’t say that the foot can get along without the rest of my body because it is an independent sort of substance. I don’t have an interaction problem: how does my foot interact with me as agent?

disClosure: Could the computer then be an extension of your body as long as you are sitting there using it, because it operates in the same way that the hand does, doing what you want to do, until you deliberately bring it to a halt?

Dreyfus: Merleau-Ponty talks about a similar phenomenon. A blind man takes over his cane and it becomes part of his body. He feels the world at the end of the cane. He doesn’t feel the pulses in the palm of his hand. So yes, you could, in Merleau-Ponty language, “take over on the side of the body” something like a computer that was once an object for the body, and come to experience the world through it.

disClosure: What does that do to the whole image that we have of the body and the extents of the body, because if you take E-mail, for example, as ready to hand, then you are actually touching some place in Frankfurt, Germany.

Dreyfus: The trouble is there is a kind of lag. If you could be in an interactive conversation where you didn’t have to type and then wait, and type and then wait, at some point, yes. I don’t think it will work yet with computers. But with the telephone it seems to me when I am talking to someone in Europe, it *is* as if we are just talking together and the phone is just the kind of medium.

disClosure: When humans develop skills, is there something essential that we need, that is, is something about the way we operate necessary in order to develop these skills?

Dreyfus: I think so, in a way, and I think not, in a way. That is, I do think that there is a cross-cultural principle for all human beings, and, for all I know, for higher primates, too. Namely, that they have to cope, or they can’t survive. Coping requires skills, and skills are only acquired when you are involved; they consist of having more and more refined responses to particular situations. That’s the cross-cultural part. There certainly doesn’t have to be rules at all. I don’t know, but I would like to know, whether there might not be cultures that have no rules at all. I don’t see why not. There couldn’t be a culture that had no skills at all, however.

That's just absurd. So there is something cross-cultural, but it has no substantive content; what skills you acquire, what morality you acquire, what understanding of what it is to be a human being you acquire, is left completely open. That's why I can't tell whether it is essentialist or not essentialist. It tells you human beings have to be skillful copers, that all skills have to be exercised in a certain way, but it doesn't tell you whether human beings have to be heroes or saints, or mature or whatever thing our traditions or other traditions have filled in, because skills are very flexible. I don't see any way to describe any limit to what particular skills particular people can pick up in particular contexts.

disClosure: Sort of goes back to that Heidegger question....

Dreyfus: So the skill model is *existential*, not *existentiell*. I would say it was a Heidegger existential, or a Merleau-Ponty one. There is an important difference. For Heidegger, the kinds of skills humans have are totally different from the kinds of skills the higher primates might have. Merleau-Ponty is perfectly happy to include apes along with people in most of what he has to say. I can't think of very much that would leave them out. The crucial question is "what are you ultimately trying to do when you cope? Are you trying to get a maximum grip on the world?" This is what Merleau-Ponty thinks; then you can bring apes and other higher animals into your account—they are all trying to get a maximum grip on the world. Or are you trying, through your action, to take a stand on what it is to be a human being? That is, your being is an issue for you. If getting an identity is what all of this skilled behavior is for, then of course it is something only a human being can do. But even with this big difference, what skills are and that there have to be skills cuts across this distinction, whether they are for getting a maximum grip or whether they are for taking a stand on what it is to be human, ultimately, the skills, at the level I am describing, are the same.