Donald A. Schön
The reflective practitioner
- how professionals think in action.
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Schöns ærinde: At tilbyde et alternativ til den traditionelle praksis-epistemologi. Alternativet kalder han reflection-in-action-

Forord
I begin with the assumption that competent practitioners usually know more than they can say. They exhibit a kind of knowing in practice, most of which is tacit…Indeed practitioners themselves often reveal a capacity for reflection on their intuitive knowing in the midst of action and sometimes use this capacity to cope with the unique, uncertain, and conflicted situations of practice . (8-9)

Part one: Professional knowledge and reflection in action
But the questioning of professionals rights and freedoms – their license to determine who shall be allowed to practice, their mandate for social control, their autonomy – has been rooted in a deeper questioning of the professionals´ claim to extraordinary knowledge in matters of human importance. (5)

The crisis of confidence in the professions, and perhaps also the decline in professional self-image, seems to be rooted in a growing skepticism about professional effectiveness in the larger sense, a skeptical reassessment of the professionals actual contribution to society´s well-being through the delivery of competent services based on special knowledge. (13)

Problems are interconnected, envitoments are turbulent, and the future is indeterminate just in so far as managers can shape it by their actions. What is called for, under these conditions, is not only the analytic techniques which have been traditional in operations research, but the active, synthetic skill of "designing a desirable future and inventing ways of bringing it about." (16, citat fra Russell Ackoff, 1979)

The unique case calls for an art of practice which "might be taught, if it were constant and known, but it is not constant." (16-17 – citat a Harvey Brooks)

Practitioners are frequently embroiled in conflicts of values, goals, purposes and interests. (17)

Competing views of professional practice – competing images of the professional role, the central values of the profession, the relevant knowledge and skills – have come into good currency. (17)

As Edgar Schein has put it, there are three components to professional knowlegde:
An underlying discipline or basic science component upon which the practice rests or from which it is developed.
An applied science or "engineering" component from which many of the day-to-day diagnostic procedures and problem-solutions are derived.
A skills and attitudinal component that concerns the actual performance of services to the client, using the underlying basic and applied knowledge. (24, Schein: Professional Education, 1973)

The researchers role is distinct from, and usually considered superior to, the role of the practitioner. (26)
(30 ff om hvordan positivismen og den tekniske rationalitet har affødt ekspert-vældet)

From the perspective of Technical Rationality, professional practice is a process of problem solving. Problems of choice or decision are solved through the selection, from available means, of the one best suited to establish ends. But with this emphasis on problem solving, we ignore problem setting, the process by which we define the decision to be made, the ends to be achieved, the means which may

be chosen. In real-world practice, problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problem situations which are puzzling, troubling, and uncertain. (40)

Problem setting is a process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them. (40)

Let us search, instead, for an epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict. (49)

Knowing in action: Knowing has the following properties:
There are actions, recognitions, and judgements which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance.
We are often unaware of having learned to do these things; we simply find ourselves doing them.
In some cases, we were once aware of the understandings which were subsequently internalized in our feeling for the stuff of action. In other cases, we may never have been aware of them. In both cases, however, we are usually unable to describe the knowing which our action reveals. (54)

Reflecting in action: Improvisation consists on varying, combining and recombining a set of figures within the schema which bounds and gives coherence to the performance. (55)

They (musikere) are reflecting in action on the music they are collectively making and on their individual contributions to it, thinking what they are doing and, in the process, evolving their way of doing it. (56)

A practitioners reflection can serve as s corrective to overlearning. Through reflection, he can surface and criticize the tacit understandings that have grown up around the repepitive experiences of a specialized practice, and can make new sense of the situations of uncertainty or uniqueness which he may allow himself to practice. (61)

When a practitioner reflects in and on his practice, the possible objects of his reflection are as varied as the kinds of phenomena before him and the systems of knowing-in-practice which he brings to them. He may reflect on the tacit norms and appreciations which underlies a judgement, or on the strategies and theories implicit a pattern of behaviour. He may reflect on the feeling for a situation which has led him to adopt a particular course of action, on the way in which he has framed the problem he is trying to solve, or on the role he has constructed for himself within a larger institutional context. (62)

...then the practitioner may surface and criticize his initial understanding of the phenomenon, construct a new description of it, and test the new description by an on-the-spot experiment. Sometimes he arrives at a new theory of the phenomenon by articulating a feelimg he has about it. (dvs. at reframe problemet jf. Christrup. Jeg synes at Schön beskriver dette temmelig opskrift-agtigt!) (63)

The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomena before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomena and the change in the situation.
When someone reflects in action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. (68)

Part two: Professional context for reflection in action
Architects: In a good process of design, this conversation with the situation is reflective. In answer to the situations back-talk, the designer reflects in action on the construction of the problem, the strategies of action, or the model of the phenomena, which have been implicit in his moves. (79)

Eksempel med en arkitektstuderende Petra der vejledes af sin lærer Quist s. 79ff.
Petras problem solving has led her to a dead end. Quist reflects critically on the main problem she has set, reframes it, and proceeds to work out the consequences of the new geometry he has imposed on the screwy site. (102)

Psychotherapy: The supervision session, samtale mellem en psykoterapeut Resident og dennes supervisor S, som søger efter mønstre og opridser alternativer, s. 109 ff.

Having constructed and tested a solution to the puzzle, the Supervisor means to keep it open to further inquiry. The Resident should use the tentative solution to guide his work with the patient, but he should keep the puzzle alive. (124)

The structure of reflection in action:
Because each practitioner treats his case as unique, he cannot deal with it in applying standard teories or techniques. In the half hour or so that he spends with the student, he must construct an understanding of the situation as he finds it. And because he finds the situation problematic, he must reframe it. (129)

But the practitioners moves also produce unintended changes which give the situation new meanings. The situation talks back, the practitioner listens, and as he appreciates what he hears, he reframes the situation once again. (131-132)

When the practitioner tries to solve the problem he has set, he seeks both to understand the situation and to change it. (134)

The practitioner has built up a repertoire of exambles, images, understandings, and actions... When a practitioner makes sense of a situation he percieves to be unique, he sees it as something already present in his repertoire.(138)

Seeing-as is not enough, however. When a practitioner sees a new situation as some element of his repertoire, he gets a new way of seeing it and a new possibility for action in it, but the adequacy and utility of his new view must still be discovered in action. Reflection in action necessarily involves experiment. (141)

Exploratory experiment is the probing, playful activity by which we get a feel for things. It succeeds when it leads to the discovery of something there. (145)

Movetesting experiments: We take action in order to produce an intended change. (146)
Hypothesis testing experiments succeeds when it effects as intended discrimination among competing hypotheses. (146)

When the practitioner reflects in action in a case he percieves as unique, paying attention to phenomena and surfacing his intuitive understanding of them, his experimenting is at once exploratory, move testing and hypothesis testing. The three functions are fulfilled by the very same actions. (147)

The situations of Quist and the Supervisor are, in important ways, not the real thing. ..Each is operating in a virtual world, a constructed representation of the real world of practice. This fact is significant for the question of rigor in experimenting. In his virtual world, the practitioner can manage some of the constrains to hypothesis-testing experiment which are inherent in the world of his practice. (157)

Drawing functions as a context for experiment precisely because it enables the designer to eliminate features of the real world situation which might confound or disrupt his experiments, but when he comes to interpret the results of his experiments, he must remember tha factors that have been elinimated. (159)

Storytelling represents and substitutes for firsthand experience....Once a story has been told, it can be held as datum, considered at leisure for its meanings and its relationsships with other stories. ...By attending to a few features which he considers central, the Supervisor can isolate the main thread of a story from the surrounding factors which he chooses to consider as noise. (160)

In improvisation, musical or dramatic, participants can conducts on the spot experiments in which, as improvisation tends towards performance, the boundaries between virtual and real worlds may become blurred. (162)

Reflective practice in the sciencebased professions: Eksempel med ingeniørstuderende, der afprøver alternative metoder s. 171ff.

At each stage of this process the students were contronted with puzzles and problems that did not fit their known categories, yet they had a sense of the kinds of theories that might explain these phenomena. They used their theoretical hunches to guide experiment, but on several occasions their moves led to puzzling outcomes – a process that worked, a stubborn defect – on which they then reflected. Each such reflection gave rise to new experiments and to new phenomena, troublesome or desirable, which led to further reflection and experiment. (176) (åbenhed således vigtig for denne spiralprocess, og at turde gå videre end blot reproducere det kendte)

In the examples just described, there was a crucially important step, one often attributed to "creaticity" or "intuition"....Faced with unexpected and puzzling phenomena, the inquirers made initial descriptions which guided their further investigation. ...They (beskrivelserne) are, at least on some occasions, outcomes of reflections on a perceived similarity, a process which in the previous chapter I called seeing-as. (182)

Thomas Kuhn calls such process "thinking from exemplars". Once a new problem is seen to be analogous to a problem previously solved, then "both an appropriate formalism and a new way of attaching its symbolic consequenses naturally follow". (Kuhn, Second Thoughts) (183)

When the two things seen as similar are initially very different from one another, falling into what is usually considered different domains of experience, then seeing-as takes a form I call "generative metaphor". (183-184)

The idea of reflection on seeing-as suggests a direction of inquiry into processes which tend otherwise to be wystified and dismissed with the terms "intuition" or "creativity", and it suggests how these processes might be placed within the framework of reflective conversation with the situation which I have proposed as a partial account of the arts of engineering design and scientific investigation. (187)

Town Planning: Limits to reflection in action s. 204 ff
In some cases, special interest groups took positions which were in direct and explicit conflict with one another. In other cases, conflicts of interest became clear only as the success of one movement led to consequences contrary to the interests of another. In still other cases, conflict became evident as the different movements found themselves competing in hard times for scarce ressources. (207)

A professional role places skeletal demands on a practitioners behaviour, but within theses constraints, each individual develops his own way of framing his role. Whether he chooses to his role

The planner in our protocol frames the problems of his meeting with the developer in a Model 1 way and brings a Model 1 theory of action to their solution. He percieves the review game, which he plays with the developer, as a win/lose game. He sets and tries to solve the problems by a strategy of mystery and mastery. (227)

Thus his framing of the role, his setting of the problems of the meeting, and his model 1 theory of action, make up a self-reinforcing system. One could either say that he has framed role and problems to suit his theory of action, or that he has evolved a theory of action suited to the role and problems he has framed. (228)

An individuel who conforms to Model 2 tries to satisfy the following values:
- Give and get valid information
- Seek out and provide others with directly observable data and correct reports, so that valid attributions can be made.
- Create the conditions for free and informed choice.
- Try to create, for oneself and for others, awareness of the values at stake in decision, awareness of the limits of one´s capacities, and awareness of the zones of experience free of defense machanisms beyond one´s control.
- Increase the likelihood of internal commitment to decisions made.
- Try to create conditions, for oneself and for others, in which the individual is committed to an action because it is intrinsically satisfying – not, as in the case of model 1, because it is accompanied by external rewards or punishments. (231)

Among the strategies for achieving these values, there are the following:
Make designing and managing the enviroment a bilateral task, so that the several parties to the situation can work toward freedom of choice and internal commitment.
Make protection of self or other a joint operation, so that one does not withold negative information from the other without testing the attribution that underlies the decision to withold.
Speak in directly observable categories, providing the data from which one´s inference are drawn and thereby opening then to disconfirmation.
Surface private dilemmas, so as to encourage the public testing of the assumptions on which such dilemmas depend. (231-232)

Role frame is interdependent with interpersonal theory of action, and the resulting system of knowing-in-practice has consequnces both for the practitioners ability to detect crucial errors and for the scope and direction of his reflection in action. (234-235)

The art of managing: Reflection in action within an organizational learning system s. 236ff
The field of management has long been marked by a conflict between two competing views of professional knowledge. On the first view, the manager is a technician whose practice consists in applying to the everyday problems of his organization the pinciples and methods derived from management science. On the second, the manager is a craftsman, a practitioner of the art of managing, that cannot be reduced to explicit rules and theories. (236-237)

Managers have become increasingly sensitive to the phenomena of uncertainty, change, and uniqueness. In the last twnty years, "decision and uncertainty" has become a term of art. It has become commonplace for managers to speak of the "turbulent" enviroments in which problems do not lend themselves to the techniques of benefit-cost analysis or to probabilistic reasoning...Here they tend to speak not of technique but of "intuition". (239)

In management as in other fields, "art" has a two-fold meaning. It may mean intuitive judgment and skill, the feeling for phenomena and for action that I have called knowing-in-practice. But it may also designate a manager´s reflection, in the context of action, on phenomena which he percieves as incongruent with his intuitive understandings. (241)

A managers life is wholly concerned with an organization which is both the stage for his activity and the object of his inquiry. Hence, the phenomena on which he reflects-in-action are the phenomena of organizational life. (242)

Managers do reflect-in-action, but they seldom reflect on their reflection-in-action…Since he cannot describe his reflection-in-action, he cannot teach others to do it. (243)

The interaction between product development team and research laboratory can be represented as a cycle of action and reaction. (259)

Credibility, commitment, confidence and cempetence are interdependent. (261)

Considered more broadly as an organizational learning system, the product development game determines the directions and the limit of reflection-in-action. When crisis present themselves, managers subject them to inquiry – often with successful results – but they do not reflect publicly on the processes which lead to such crises, for this would surface the games of deception by which product development deals with general management. While these games are ″open secrets″ within the organization, they are not publicly discussable. (263)

Patterns and limits of reflection-in-action, s. 268ff
I have in mind differences in the constants that various practitioners bring to their reflection-in-action:
The media, languages, and repertoires that practitioners use to describe reality and conduct experiments.
The appreciative systems they bring to problem setting, to the evaluation of inquiry, and to reflective conversation.
The overarching theories by which they make sense of phenomena.
The role frames within which they set their tasks and through which they bound their institutional settings. (270)

They (konstanterne) tend to change over periods of time longer than a single episode of practice, although particular events may trigger their change. And they are sometimes changed through the practitioners reflection on the evens of his practice. (275)

Even if reflection-in-action is feasible, however, it may seem dangerous. ..It may seem to do so for four different reasons:
There is no time to reflect when we are on the firing line; if we stop to think, we may be dead.′
When we think about what we are doing, we surface complexity, which interferes with the smooth flow of action. The complexity that we can manage unconsiously paralyzes us when we bring it to consciousness.
If we begin to reflect-in-action, we may trigger an infinite regress of reflection on action, then on our reflection on action, and so on ad infinitum.
The stance appropriate to reflection is incompatible with the stance appropriate to action. (278)

Our question then is not so much whether to reflect as what kind of reflection is most likely to help us get unstuck. (280)

That fear that reflection-in-action will trigger an infinite regress of reflection derives from an unexamined dichotomy of thought and action. If we separate thinking from doing, seeing thought only as a preparation for action and action only as an implementation of thought, then it is easy to believe that when we step into the separate domain of thought we will become lost in an infinite regress of thinking about thinking. But in actual reflection-in-action, as we have seen, doing and thinking are complementary. Doing extends thinking in the tests, moves, and probes of experimental action, and reflection feeds on doing and its results. Each feeds the other, and each sets boundaries for the other. (280)

A practitioner might break into a circle of self-limiting reflection by attending to his role frame, his interpersonal theory-in-use, or the organizational learning system in which he functions. (283)

Part three: Conclusions

The traditional professional-client relationship, linked to the traditional epistemology of practice, can be described as a contract, a set of norms governing the behavior of each party to the interaction. (292)

It is important to note, first of all, that reflective practice does not free us from the need to worry about the client rights and mechanisms of professional accountability. My concern is to show how the professional-client may be transformed, within a framework of accountability, when the professional is able to function as a reflective practitioner.
Just as reflective practice takes the form of a reflective conversation with the situation, so the reflective practitioers relation with his client takes the form of a literally reflective conversation. (295) (jf. Joharis´ vindue)

Both client and professional bring to their encounter a body of understandings which they can only very partially communicate to one another and much of which they cannot describe to themselves. (297)

Within such a contract the professional is more directly accountable to his client than in the traditional contract. There is also room here for other means of assuring accountability, that is, for peer review, for monitoring by organized clients, and for the "default procedures" of public protest or litigation. (297)

Expert: I am presumed to know, and must claim to do so, regardless of my own uncertainty.
Reflective practitioner: I am predumed to know, but I am not the only one in the situation to have relevant and important knowledge. My uncertainties may be a source of learning for me and for them.
Expert: Keep my distance from the client, and hold onto the experts role. Give the client a sense of my expertise, but convey a feeling of warmth and sympathy as a "sweetener".
RP: Seek out connections to the client´s thoughts and feelings. Allow his respect for my knowledge to emerge from his discovery of it in the situation.
Expert: Look for deference and status in the clients response to my professional persona.
RF: Look for the sense of freedom and of real connection to the client, as a consequence of no longer needing to maintain a professional facede. (300)

Traditional contract: I put myself into the professionals hands and, in doing this, I gain a sense of security based on faith.
Reflective contract: I join the professional in making sense of my case, and in doing this I gain a sense of increased involvement and action.
TC: I have the comfort of being in good hands. I need only comply with his advise and all will be well.
RC: I can exercise some control over the situation. I am not wholly dependent on him; he is also dependent on information and action that only I can undertake.
TC: I am pleased to be served by the best person availiable.
RC: I am pleased to be able to test my judgments about his competence. I enjoy the exitement of discovery about his knowledge, about the phenomena of his practice, and about myself. (302)

When practitioners are unaware of their frames for roles or problems, they do not experience the need to choose among them. They do not attend to the ways in which they construct the reality in which they function; for them, it is simply the given reality. (310)

When a practitioner becomes aware of his frames, he also becomes aware of the possibility of alternative ways of framing the reality of his practice. (310)

The idea of an action science has a precursor in the work of Kurt Lewin, much of which has the thematic character which enables practitioners to use it in their own reflection-in-action. Such notions as "gatekeeper roles", "democratic and authoritatian group climates" and "unfreezing" are metaphors from which managers, for examble, can build and test their own on-the-spot theories of action. (319)

As we try to understand the nature of reflection-in-action and the process greatly influenced by "cognitive emotions", and by the social context of inquiry. (322)

Significant organizational learning – learning which involves significant change in underlying values and knowledge structure – is always the subject of an organizational predicament. It is necessary to effective adaption, but it disrupts the constancies on which manageable organizational life depends. In addition, as I have notes earilier, the individual agents of organizational learning operate within a social system which shapes their behavior. They have individual interests and theories of action which they bring to the creation of the behavioral world in which they live, a behavioral world which may be more or less conducive to the public testing of private assumptions, the surfacing of dilemmas, and the public discussions of sensitive issues. They belong to subgroups which often enter into win/lose games of attack and defense, deception, and collusion. In so far as these social systems determines the boundaries and directions of organizational inquiry, they are ”learning systems”; and in organizations like the consumer products firm they may severely constrain organizational learning. (328)

Eksempel med skolesystemet s. 329ff
In a school supportive of reflecting teaching, teachers would challenge the prevailing knowlegde structure...Conflicts and dilemmas would surface and move to center stage. In the organizational learning system with which we are most familiar, conflicts and dilemmas tend to be suppressed or to result in polarization and political warfare. (335)

A practitioner who reflects-in-action tends to question the definition of his task, the theories-in-action that he brings to it, and the measures of performanceby which he is controlled. And as he questions these things, he alsom questions elements of the organizational knowledge structure in which his functions are embedded. (337)

The existence of a widespread capacity for reciprocal reflection-in-action is unlikely to be discovered by an ordinary social science which tends to detect, and treat as reality, the patterns of institutionalized contention and limited learning which individuals transcend, if at all, only on rare occasions. The extent of our capacity for reciprocal reflection-in-action can be discovered only through an action science which seeks to make some of us do on rare occasions into a dominant pattern of practice. (354)