
Learning and Change in the Work of Donald Schön: Reflection on Theory and Theory on Reflection

Magnus Ramage

Abstract

Donald Schön was a deeply original thinker working on change, education, design, and learning. He is perhaps best known for his work on the reflective practitioner, in which he formulated a new epistemology of practice founded on knowing-in-action and reflection-in-action, a theory which has had considerable impact. He also made huge contributions to the field of organizational learning, working with Chris Argyris on theories in action and on single/double loop learning. Underlying all these contributions was a theory of change grounded in Dewey's theory of inquiry and deeply concerned with how institutions and professionals deal with a world beyond the stable state. An educator as well as a theorist and practitioner, Schön was highly interested in how professionals can be taught in ways that reflect the reality in which they work rather than the traditional forms of technical rationality. This chapter examines Schön's key contributions, the influence of philosophy and music upon his work, and the many ways his work has been used.

Keywords

Professionalism • Epistemology • Reflective practice • Stable state • Change • Organizational learning

Contents

Introduction	1160
Influences and Motivations: Philosophy, Practice, and Music	1160
Key Contributions: Change, Learning, and Reflection in Individuals and Organizations	1163
New Insights: One Person, Many Influences	1168
Legacies and Unfinished Business: Power and Public Policy	1170
References	1171

M. Ramage (✉)

School of Computing and Communications, The Open University, Milton Keynes, UK

e-mail: magnus.ramage@open.ac.uk

Introduction

Donald Alan Schön (1930–1997) was an extraordinarily original thinker, working at the boundary between the theory and practice of change, design, and education, and constantly pushing those boundaries. He is perhaps now most widely read as the originator of the concept of the “reflective practitioner,” a concept that he originated in urban planning and design but has been extremely influential in education, management, social work, law, and many other fields. Indeed, the concept of reflective practice is now so well known that it risks eclipsing Schön’s other conclusions; yet it sits within a set of other ideas that are just as important and influential.

Just a few of those other contributions included: his work on change and the idea of the stable state; the concept of learning systems; his development with Chris Argyris of the concepts of organizational learning, and of Model I and Model II change; his work on generative metaphor; and his work with Martin Rein on frame reflection.

Underlying all this work was a fascination with the epistemology of practice: of how professionals learn and make sense of the world, and how they might do it better. One of Schön’s long-time collaborators, scholar of music and education Jeanne Bamberger, wrote in a reflective piece after his death of the notes she had made over 23 years of conversations with him:

And running through all of these was a continuing search which I can now see as one way of grappling with that “persistent image”. If one must give up, go beyond the stable state, one must also ask: How do we learn anything really new? How do we come to see in a new way? (Bamberger 2000, p. 10)

If those sound like theoretical concerns, for Schön they were deeply practical, and it was his life’s work to show their practicality to others. In the process he shaped more than one field of practice as well as theory in very profound ways.

Influences and Motivations: Philosophy, Practice, and Music

Given his influence on concepts of practice, it is appropriate that Donald Schön blended both theory and practice throughout his working life, combining academic rigor and practical grounding. He began his academic life with a strong philosophical training, studying that field at Yale, the Sorbonne, and Harvard. Indeed Waks (2001, p. 37) refers to him as a “displaced philosopher” and observes that “philosophy was his first professional tongue.”

A major philosophical influence upon all his later work was the theory of inquiry of John Dewey, the American pragmatist theorist of education. In a late paper, Schön heralded Dewey’s theory of inquiry as a revolt against “dualisms of thought and action, research and practice, science and common the academy and everyday life” (Schön 1992, p. 121). This focus on an epistemology which breaks through dichotomies between theory and practice was crucial to everything he would later do.

Dewey's writings are quoted throughout Schön's work, and he stated quite explicitly that he wrote his doctoral thesis in 1955 based on Dewey (1938), and 30 years later reworked its ideas "now on the basis of empirical studies professional practice that would have been out of order in the Harvard philosophy department of the mid-1950s . . . [to] make my own version of Dewey's theory of inquiry, taking 'reflective practice' as my version of Dewey's 'reflective thought'" (Schön 1992, p. 123). Those reworked ideas formed the basis for *The Reflective Practitioner* (Schön 1983).

Although Dewey was important throughout Schön's life, other philosophers also had a considerable influence on his thinking. He wrote himself (Schön 1992) that his early training was in logical empiricism (the Anglo-American analytic tradition, also known as logical positivism), but he largely moved beyond this approach in most of his work, and took on ideas from broader philosophical schools. In particular he was later influenced by the theory of tacit knowledge of Michael Polanyi, and as we shall later see by the ancient Greek philosopher of change Heraclitus – his second book (Schön 1967) was subtitled *The New Heraclitus*, and it could be considered a good description of Schön himself.

The combination of research and practice served Schön well throughout his life. Following his PhD (and a short time in the army), he spent 15 years in professional practice: first as a product design consultant at Arthur D. Little, then working in government for the National Bureau of Standards, and finally as the director of the Organization for Social & Technical Innovation (OSTI). Three of his major books were written while working in practice. Indeed, while working at OSTI he was invited to be the youngest person ever to give the British Broadcasting Corporation's prestigious annual lecture series, the Reith Lectures for 1970, subsequently published as his book *Beyond the Stable State* (Schön 1971).

When he returned to academia in 1972, as a professor of Urban Studies and Education at the Massachusetts Institute of Technology (MIT), he nonetheless retained close links with practice, and his later books are founded on a conversation between ideas and practice. He continued to be based at MIT for the rest of his life. It was while working at MIT that he developed some of the collaborations briefly mentioned above – with Jeanne Bamberger and Martin Rein, but most especially with Chris Argyris (based at nearby Harvard), with whom he developed so many important ideas.

Argyris brought a number of influences of his own that would prove to be important to their collaboration, notably his strong allegiance to the work of Kurt Lewin, the founder of the field of organizational development. Through his work with Argyris, Schön would also become influenced by some of the lessons of cybernetics, notably the work of Ross Ashby and Gregory Bateson, two profoundly original thinkers on learning whose work fed directly into the theory of organizational learning.

A further profound influence on his work came through his love of music. Schön was deeply musical, as a player of the clarinet and piano, and as a composer. While studying philosophy at the Sorbonne, he was equally engaged in studying the clarinet at the Conservatoire de Paris, and he practiced and played the clarinet on

an almost daily basis for the rest of his life. Music for Schön was more than a hobby – it had a deep influence upon the way he thought and wrote, as Richmond argued: “it was perhaps the structure of musical composition that inspired the profound harmony of his written output . . . the unifying theme of all his oeuvres was a finale that left those he had so powerfully engaged refreshed and with hope for the future” (Richmond et al. 1998, p. 3).

Indeed, Schön’s musical experience formed the basis for one of his most vivid descriptions for perhaps his most celebrated concept, that of “reflection-in-action”:

When good jazz musicians improvise together, they similarly display reflection-in-action smoothly integrated into ongoing performance. Listening to one another, listening to themselves, they “feel” where the music is going and adjust their playing accordingly. A figure announced by one performer will be taken up by another, elaborated, turned into a new melody. Each player makes on-line inventions and responds to surprises triggered by the inventions of the other players. But the collective process of musical invention is organized around an underlying structure. There is a common schema of meter, melody, and harmonic development that gives the piece a predictable order. In addition, each player has at the ready a repertoire of musical figures around which he can weave variations as the opportunity arises. Improvisation consists in varying, combining, and recombining a set of figures within a schema that gives coherence to the whole piece. As the musicians feel the directions in which the music is developing, they make new sense of it. They reflect-in-action on the music they are collectively making – though not, of course, in the medium of words. (Schön 1987, p. 30)

Schön often compared himself to a giraffe – an obituary called him “long-necked, graceful, curious, aloof” (Warsh 1997) – but from his height he was able to look over a wide range of different areas of life. The same obituarist described him as “interested in anything and everything: the design of a washing machine agitator; the pension system in Germany; the computer wiring-up of MIT; a program for homelessness in Massachusetts; the process by which corporations present themselves through the use of space” (Warsh 1997). That image of a giraffe was taken up by his wife, the celebrated sculptor Nancy Schön, as a posthumous tribute: she has made several sculptures under the name of “the reflective giraffe.”

Although seen as somewhat aloof in professional life, he was a mentor to a large number of students as well as practitioners: one former student described him as “tough but flexible, blunt yet understanding, he challenged us to do our best work” (Fischler, in Richmond et al. 1998, p. 8).

In his personal life he was anything but aloof. He was deeply devoted to his family – with his wife Nancy he had four children and several grandchildren. At the time of his death, he was preparing one of his grandsons for his bar mitzvah ceremony (Schön was Jewish), and building a puppet theatre for his grandchildren, “who he taught the essence of reflection by having them critically conceive a theory of how a puppet theatre ought to work” (Richmond et al. 1998, p. 3).

Music and family came together at the end of his life. Sanyal (in Richmond et al. 1998, p. 7), drawing on accounts by Don’s son Andrew, writes that

it was a fitting farewell for his family to stand surrounding his bed holding hands and singing rounds of songs . . . as Don’s eyes closed for the last time, the family members lowered their

voices in sorrow only to be urged by Don who raised his right palm to request them to continue singing so he could listen to his favourite Brahms as he gently embraced death.

It was this combination of influences and motivations – of Deweyan philosophy, professional practice, deep curiosity, music, and concern for the world – which led Donald Schön towards the profound contributions that he made in such a variety of different fields.

Key Contributions: Change, Learning, and Reflection in Individuals and Organizations

Schön's first lasting contribution (or perhaps we might better say, set of contributions) centered around models of change in organizations, society, and technology. He published this work in two books, *Technology and Change: The New Heraclitus* (Schön 1967) and *Beyond the Stable State* (Schön 1971). Although the first of these was published 50 years ago, it remains very fresh and relevant to today's concerns. Schön contrasts the approach to two understandings of reality from two classical philosophers, Parmenides and Heraclitus – the first grounded in the permanence of stability, the second in the permanence of change.

In the view of Parmenides, as Schön (1967, p. xi) puts it, “stability was the only reality; being was continuous, changeless, one; change, in the form of creation or passing away, was inherently contradictory and therefore illusory.” Organizations and society behave, argued Schön, as if Parmenides was correct: “we conceive of our institutions – nations, religions, business organizations – as enduring” (ibid., p. xii).

This conception of stability is summarized in Schön's concept of the **stable state** – the idea that our lives, our institutions, and our societies have fundamentally unchanging elements, values, and theories (an idea first introduced in Schön 1967, but developed at greater length in Schön 1971). As Schön wrote, “belief in the stable state is belief in the unchangeability, the constancy of certain central aspects of our lives, or belief that we can obtain such a constancy” (1971, p. 9). This kind of belief is attractive to many people and it is a guard against many forms of uncertainty. The stable state behaves homeostatically, as Schön identified – it self-regulates to preserve its form.

In particular, organizations are frequently dependent on the concept of the stable state. They tend to act as if they will continue to exist in their current form, with their current ownership and management, indefinitely. This is clearly false – to take just one counter-example, if we consider the Fortune 500 companies from 1970 and look at their status in 1983, one third had been merged or taken over with other companies, or split in some form (De Geus 1997, p. 51).

Moreover, organizations act according to Schön's principle of dynamic conservatism, an active and elastic approach to remain in the same form, which Schön (1971) described as “a tendency to fight to remain the same” (p. 32). Dynamic conservatism is not wholly negative – it is the process “through which social systems keep from flying apart at the seams . . . our systems need to maintain their identity,

and their ability to support the self-identity of those who belong to them, but they must at the same time be capable of transforming themselves” (Schön 1971, p. 60).

Notwithstanding the widespread nature of this belief in, and deliberate action to reinforce, the stable state, Schön regarded it as an insufficient description of the nature of organizations and society. Rather than siding with Parmenides in his view of change, he supported the view of Heraclitus, the Greek philosopher of constant change who famously argued that “one can never step in the same river twice” (strictly speaking, a later paraphrase of his words). In Heraclitus’ view, stability is only achieved in the river through the rapidity of change in the flowing of the water.

In a similar way, Schön (1971) argued that “throughout our society we are experiencing the actual or threatened dissolution of stable organizations and institutions, anchors for personal identity and systems of values . . . the stable state itself is becoming less real” (p. 15). It affects a wide variety of institutions – he mentioned governments, labor movements, churches, and universities as four types of institutions which are radically affected by a loss of stability. This loss of the stable state, Schön argued, came partly from technological change and partly from social factors – exponential growth in technology had reached the point where it had become pervasive in all parts of the world, and changing at a speed that made it hard to ignore. (As a side note: in today’s society we equate “technology” and “technological change” with computers and communications; Schön was talking about a wide range of technologies, and the widespread importance of the digital computer was only beginning in 1967.)

Schön identified three typical “anti-responses” to the loss of the stable state, each in turn essential attempts to refuse to recognize it: an attempt to *return* to the previous stable state, as best as possible; a *revolt* which is apparently against the past state, but in such a way that the past is enabled surreptitiously to return; and a state of *mindlessness*, which seeks to escape from the reality of change through drugs, violence, or other techniques. He saw each of these as unconstructive, as failures “to confront what might be like to live without the stable state” (Schön 1971, p. 29).

Instead, he argued that:

The loss of the stable state means that our society and all of its institutions are in continuing processes of transformation. We cannot expect new stable states that will endure even for our own lifetimes.

We must learn to understand, guide, influence, and manage these transformations. We must make the capacity for undertaking them integral to ourselves and to our institutions.

We must, in other words, become adept at learning. We must become able not only to transform our institutions, in response to change situations and requirements; we must invent and develop institutions which are “learning systems”, that is to say, systems capable of bringing about their own continuing transformation. (Schön 1971, p. 30)

This concept of a **learning system**, then, was Schön’s key response to the loss of the stable state, to widespread change. A learning system needed to be heavily decentralized both in terms of geography (enabled by new communications) and in terms of decision-making (so that its leadership would be ad hoc and fluid rather than fixed and hierarchical). He argued that both businesses and governments had

the potential to be taken on the character of learning systems, but that he most clearly saw them occurring in nascent form through two very different institutions – the newly prominent business consultancy firms, and the youth movement that occurred in the United States during the late 1960s. Both forms of institutions had proved themselves to be decentralized, with shifting leadership, and both to be effective at learning and adaptation.

Schön discusses the behavior of a learning system that is working well, in his concept of governments as learning systems, although the lessons apply just as well to other forms of organization: “The opportunity for learning is primarily in discovered systems at the periphery, not in the nexus of official policies at the centre. . . . central [government] comes to function as facilitator of society’s learning, rather than as society’s trainer” (Schön 1971, p. 177). This concept would directly feed into his later work on organizational learning, but in itself can already be seen as the template for the decentralized governance that is so frequently seen as important in contemporary organizations.

In Schön’s next key work (working with Chris Argyris), he developed the concept of **theories of action**, which they outlined in their first joint book (Argyris and Schön 1974), where they observe that “theories constructed to explain, predict, or control human behaviour are in many ways like other kinds of theories. But insofar as they are about human action – that is, about human behaviour that is correctable and subject to deliberation – they have special features” (p. 5). The concept of theories of action appears to build upon Schön’s earlier work on metaphors and Dewey’s theory of inquiry, although neither is directly cited in the book.

They make a crucial distinction between espoused theory, “the theory of action to which [someone] gives allegiance, and which, on request, he communicates to others” (p. 7) and theory-in-use, “the theory that actually governs his actions . . . which may or may not be compatible with his espoused theory.” This distinction between espoused theory and theory-in-use is crucial in their joint work – much of Argyris and Schön (1974) is concerned with analyzing the nature of theories-in-use, which they note are highly difficult to express in explicit models or concrete statements.

They observe that in practice, two basic forms of theories-in-use are found, which they term Model I and Model II. The first of these, Model I, is based on the following assumptions: “a win/lose world, other people behave according to the assumptions of Model I, rational behaviour is most effective, public testing of assumptions is intolerably risky” (Argyris and Schön 1974, pp. 79–80); they contend that this is the commonest model in practice, despite being significantly dysfunctional. The second form, Model II, is based on the goals of: “maximize valid information; maximize free and informed choice; maximize internal commitment to decisions made” (ibid., pp. 87–89). They also discuss ways of enabling individuals to transition from Model I to Model II, and the implications of this theory for professional education.

Building on the idea of theories of action, which has a largely individual focus, Argyris and Schön moved on to look at the concept of **organizational learning**. Their books on this subject (Argyris and Schön 1978, 1996) were among the first to consider the topic, which has later become extremely important. Their starting point

is to ask what it means for an organization to learn: “it is clear that organizational learning is not the same as individual learning, even when the individuals who learn are members of the organization” (Argyris and Schön 1978, p. 9). Their answer drew heavily on the earlier idea of theory-in-use. They argue that “organizational learning occurs when individuals, acting from their images and maps, detect a match or mismatch of outcome to expectation which confirms or disconfirms organizational theory-in-use” (ibid., p. 19).

There is a strongly cybernetic flavor to this approach – it is deeply founded on feedback loops, the central concept both of cybernetics (Wiener 1948) and of the related field of system dynamics (Forrester 1961), much of this work having been carried out at MIT where Schön was based. Argyris and Schön drew even more explicitly on cybernetics in their use of the concept of single-loop and double-loop learning, which is often taken to be original to Argyris and Schön but which they attribute to the early cybernetician Ross Ashby (1960).

They define single-loop learning as occurring when “members of the organization respond to changes in the internal and external environments of the organization by detecting errors which they then correct so as to maintain the central features of organizational theory-in-use” (Argyris and Schön 1978, p. 18). This kind of learning is sufficient if the parameters for judging which errors to detect and correct are clear and constant. Circumstances may arise when those parameters are seen to be insufficient, and in that case double-loop learning is occurring: “a double feedback loop [which] connects the detection of error not only to strategies and assumptions for effective performance but to the very norms which define effective performance” (ibid., p. 22). The distinction between this single-loop and double-loop learning, and Gregory Bateson’s theory of proto-learning and deutero-learning (which he originated in 1942 – see Bateson 1972), is quite a fine one, but Argyris and Schön place double-loop learning somewhere between proto- and deutero-learning.

Argyris and Schön are modest in the level of their contribution to this work. They do not claim to have originated the concept of organizational learning, and their 1978 book contains an appendix entitled “A Review of the Literature of Organizational Learning,” based on six theories of organizational learning (organization as group, agent, structure, system, culture, and politics). This modesty notwithstanding, their joint work on organizational learning hugely advanced the field, putting it on a much sounder intellectual basis, and it is to Argyris and Schön (1978) that the huge majority of organizational learning researchers look as the basis for their work. In particular, Senge’s (1990) concept of a learning organization rests heavily on Argyris and Schön’s ideas.

Last (in terms of the time it was produced) we come to the contribution for which Schön may be best remembered: the concept of the **reflective practitioner**. In this work (Schön 1983, 1987) he drew together many of his earlier concerns, taking them forward in a new direction. His starting point is a “crisis of confidence in professional knowledge” (Schön 1983, p. 3), arising from a mismatch between the needs of professionals and the skills gained through traditional education processes. These traditional forms of professional education are dominated by a teaching model that Schön terms “technical rationality,” which stresses “instrumental problem solving made rigorous by the application of scientific theory and technique” (Schön 1983, p. 21).

This starting point resembles some of the critique of society's response to change he presented in *Beyond the Stable State*. In a vivid passage, he writes of the disparity between the requirements of practice and the approaches that are possible under technical rationality:

In the varied topography of professional practice, there is a high, hard ground where practitioners can make effective use of research-based theory and technique, and there is a swampy lowland where situations are confusing "messes" incapable of technical solution. The difficulty is that the problems of the high ground, however great their technical interest, are often relatively unimportant to clients or to the larger society, while in the swamp are the problems of greatest human concern. (Schön 1983, p. 42)

The reason for this disparity in professional education, which makes it unsuitable for work within this swamp, arises from insecurity. In the establishment of a series of applied professional schools, such as social work, education, architecture, and urban planning, there was a widespread sense that these essentially applied fields needed to become "proper" academic disciplines with grounding to resemble established professions such as medicine and law. The result, Schön argued, was a form of teaching which stressed rigor and scientific foundations, rather than the direct needs of professional practice – making them well-grounded academically but poorly grounded in practice.

Schön worked to build "an inquiry into the epistemology of practice . . . based on a close examination of what some practitioners – architects, psychotherapists, engineers, planners, and managers – actually do" (Schön 1983, p. viii). Working with similar techniques to his earlier examination of metaphors in use (Schön 1963) and on the nature of theories in action (Argyris and Schön 1974), and again drawing on Dewey's work, he studied in depth the behavior of professionals as they operate.

The two key ideas in this epistemology of practice as Schön presents it are knowing-in-action and reflection-in-action. The first is a way of understanding how we actually embody and work with knowledge: "when we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way . . . our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is *in* our action" (Schön 1983, p. 49).

Schön moves on to consider the ways that we can both "think about doing [and] that we can thinking about doing something while doing it" (*ibid.*, p. 54). It is this process, where professionals improvise in the moment based on their past experience, that he terms reflection-in-action. One who reflects-in-action "is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case" (*ibid.*, p. 68).

Schön frequently used jazz musicians (given his own musical interests) as an example of reflection-in-action, and I have earlier quoted him at some length writing on this form of reflection. This way of changing practice based on based experience is crucial to his epistemology. As he wrote: "when a practitioner makes sense of a situation he perceives to be unique, he sees it as something already present in his

repertoire. . . . The familiar situation functions as a precedent, or a metaphor, or. . . an exemplar for the unfamiliar one” (Schön 1983, p. 138).

Examples such as the jazz musicians serve as a useful corrective to a misunderstanding that has arisen around Schön’s work: that he is encouraging a different sort of reflection, the quiet kind that might occur at the end of the day through a journal or in conversation with a mentor or close friend. This too is an important part of reflective practice – Schön refers to it as reflection-*on*-action – but it is less critical to his vision of the epistemology of practice.

The concept of reflection-in-action was thus critical to Schön’s alternative model of professional education: it needed to be one that drew upon the real nature of professional knowledge, action, and reflection. In a striking observation, Schön argued that a focus on reflective practice could lead to a “demystification of professional expertise . . . to recognize that the scope of technical expertise is limited by situations of uncertainty, instability, uniqueness and conflict . . . when research-based theories and techniques are inapplicable, the professional cannot legitimately claim to be expert, but only to be especially well prepared to reflect-in-action” (Schön 1983, p. 345).

Ultimately, Schön’s vision of the reflective practitioner, as an expert in practice as much as in theory, drew upon all of his earlier insights in philosophy, change, and learning, and presented a radical alternative view to that of the dispassionate expert. It is a vision that remains radical and important today.

New Insights: One Person, Many Influences

Without a doubt, Schön’s influence upon academic and professional practice has been huge. However, it is striking that there seem to be several Donald Schöns who have influenced different communities. There is Schön the change theorist, with his potent understanding of the stable state and what lies beyond it. There is Schön the organizational theorist (here always cited as the second part of a pair with Argyris), founder of organizational learning and concepts of single-loop and double-loop learning. There is Schön the theorist of professional practice, with his concept of knowing-in-action, and the related (but not identical) Schön the theorist of education, champion of reflection-in-action. Lastly there is Schön the design theorist, influential originally within planning but increasingly taken up into the growing importance of design thinking.

All of these Schöns are overlapping of course – how could they not be when they were a single person? The many authors who cite and draw upon his work will often focus on one part but acknowledge the rest. But there is a sense, in authors drawing on his work, that they most clearly care about one of these Schöns. This is surprising in the sense that he himself saw his work as coherent, with a strong narrative thread running through it; although he wrote a lot, and contributed a large number of new ideas, he did so carefully and clearly. This is in contrast to an author such as the anthropologist and cybernetician Gregory Bateson (1972), who has also had an

influence upon many disciplines – but in his case that was partly because he operated in several different disciplinary spaces during his lifetime, and only in later life came to see his work as a unified whole.

In my own experience, I encountered two Schöns first, then a third, and lately have become captivated by a fourth. While working on my doctorate in the evaluation of information systems (Ramage 1999), I read widely and worked with practitioners of organizational learning, as I took a view of evaluation as a learning process. It was clear in this reading that Argyris and Schön had a special place in the formation of organizational learning as a concept, and I found their work useful as a starting point. Running alongside this approach, I had further encounters with Schön as he was gradually taken up in the area of human-computer interaction (an important aspect of information systems), as a theorist of design – he was interviewed in late life for a book on the importance of design in the software process, at a time when design was just beginning to be a key concept in a range of fields (Schön and Bennett 1996).

When I moved from research to teaching, taking up a post at The Open University (the UK's largest university and a pioneer in distance learning) I came to know a third Schön: the reflective educator. Colleagues across the university, especially in professional areas, drew heavily on Schön's concepts of reflection. His ideas were taught in many fields, and the idea of reflection-in-action was central to the pedagogic model of many different areas. At one time at the Open University (OU), it was hard to find a teaching program that did not have some reference to Schön's work, frequently coupled to the learning cycle of David Kolb (1984). This was true in vocational fields where Schön has been taken up elsewhere, such as social work, nursing, teacher education, and management (all important areas for the OU). But it was also very much the case in the Faculty of Technology which for 35 years developed sociotechnical and reflective courses on highly technical subjects (until two successive internal mergers weakened that culture). Some of the this was a probably a misuse of Schön's ideas – on occasions reflection was presented as an after-thought within assessment activities, referred to scathingly by students as “the R word” – but much of it gave a richness to distance education of professionals that can sometimes be lacking.

In my own work I encountered a fourth Schön more recently: the Schön of *Beyond the Stable State*. I spent several years writing an overview of the life and work of 30 key systems thinkers (Ramage and Shipp 2009), including Donald Schön, and it was the Schön who wrote about widespread systemic change that struck me very much in producing that work. Re-reading Schön's many works in preparing this chapter, it is that Schön that still strikes me today. A statement such as the one quoted above that “the loss of the stable state means that our society and all of its institutions are in continuing processes of transformation” (Schön 1971, p. 30) was highly innovative in 1970 when he first gave his Reith Lectures. Today, in a period of huge political, economic, and social turmoil, it remains just as relevant. I think it is this Schön that could perhaps better be rediscovered than any of the other Schöns.

Two remaining images from Schön's writing have been important to me as an educator and scholar, and to my colleagues in the Systems group at the Open

University. Both have appeared above in this chapter. This first is the image of reflection-in-action as jazz: anyone who has sat in a jazz concert and seen the shift from one instrument to another, the spontaneity of solo works, will find this familiar. The second is the idea of the swamp: the messy real world of practice, into which theorists need to tread with care; this is an image which has inspired a number of systems colleagues (e.g., Ison 2010) and which continues to challenge us today.

Legacies and Unfinished Business: Power and Public Policy

Schön's legacy has been huge, as I have already explored: in particular in professional education of all kinds (through the reflective practitioner), in design, and in organizational learning. So many authors have drawn upon his work, and he is extremely widely cited.

He is not without critique. A curious phenomenon is that which Fischler (2012, p. 322) describes as "the widespread diffusion but limited impact of Schön's ideas." Fischler is especially talking about Schön's impact within planning theory, where he had his academic home for 25 years, and where he is more respected than used. Nonetheless, the same could be said for a number of other fields where Schön's name, and the concept of the reflective practitioner, is widely cited but at quite a superficial level, where "very few represent an attempt to apply Schön's theory in novel ways, to test his propositions as hypotheses, to expand on his ideas, or otherwise to engage his work in a direct manner" (ibid.). There is a sense in reading some of those citing Schön that it is done because everybody cites Schön, but that the main concerns in the work are elsewhere.

One of the concerns that Fischler raises is that Schön's work takes (or is read as taking) a largely individual approach. The theories-in-action he presents are largely those of individuals; the reflective practitioners are individuals. Of course, he also has a theory of organizational learning, but this too does not have a high degree of engagement with power. There is a sense in some of Schön's work of a lack of context. Newman, for example, contrasts reflection-in-action with the critical educational work of Paolo Freire, arguing that: "Freire envisages praxis as a process with the potential of bringing about social, even revolutionary, change. Schön's reflection-in-action is also seen as capable of bringing about change in both the practitioner and the organisation, but it is not presented as a process that might challenge the society of which the practitioner and the organisation are parts" (Newman 1994, p. 90).

Schwartz (1987), in a book review of *The Reflective Practitioner* which also drew on earlier criticisms he had made of *Theory in Practice*, took a slightly different angle, arguing that: "on the whole it seems to me to offer a view of man and of human institutions that is naively optimistic in that it assumes that impediments to reflectivity are simply the result of bad habits and are easily corrected through a change in behaviour" (p. 616).

These issues of a lack of concern for power and social change in Schön's work are well described, although they can be defended in other ways. It is clear from writings

such as *Beyond the Stable State* that he had a great concern for policy issues, and he returned to this quite explicitly in one of his last books, on the idea of institutional frames. He and Martin Rein, his coauthor and another long-time collaborator, argued there that: “policies are sometimes reframed in action, and their reframing sometimes results from the actors’ reflection on frame conflicts that arise in the evolving, politically coloured process of policy design” (Schön and Rein 1994, p. viii). Moreover, his colleague Niraj Verma defended him from the charge of a lack of appreciation for power dynamics, arguing that “Don was deeply interested in issues of power – not the power of holding a gun over someone, but a subtle form of intellectual power that grips us and forces us to act in particular ways . . . in its consequences it is as dangerous as more conventional forms of power” (Richmond et al. 1998, p. 9).

Perhaps the final statement to be made about Schön’s legacy is that it is still a slightly unfinished one in terms of its effects. The ideas of reflection-in-action, of moving beyond the stable state, and his conceptions of design, in particular, are rich ones which need to be read and applied more carefully than hitherto; and with a particular eye to the issues of individualism, context, and power.

Donald Schön led a deep and reflective life, and taught us much about change, learning, and practice; there are many things we can still learn from his work today.

References

- Argyris, C., & Schön, D. A. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco: Jossey-Bass.
- Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective*. Reading: Addison-Wesley.
- Argyris, C., & Schön, D. A. (1996). *Organizational learning II: Theory, method, and practice*. Reading: Addison-Wesley.
- Ashby, W. R. (1960). *Design for a brain: The origin of adaptive behaviour* (2nd ed.). London: Chapman & Hall.
- Bamberger, J. (2000). Unanswered questions. *Cybernetics & Human Knowing*, 7, 9–16.
- Bateson, G. (1972). *Steps to an ecology of mind*. Toronto: Chandler.
- De Geus, A. (1997). The living company. *Harvard Business Review*, 75, 51–59.
- Dewey, J. (1938). *Logic: The theory of inquiry*. New York: Henry Holt and Company.
- Fischler, R. (2012). Reflective practice. In B. Sanyal, L. J. Vale, & C. D. Rosan (Eds.), *Planning ideas that matter: Livability, territoriality, governance, and reflective practice* (pp. 313–332). Cambridge, MA: MIT Press.
- Forrester, J. W. (1961). *Industrial dynamics*. Cambridge, MA: MIT Press.
- Ison, R. (2010). *Systems practice: How to act in a climate change world*. London: Springer.
- Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs: Prentice-Hall.
- Newman, D. (1994). *Defining the enemy: Adult education in social action*. Sydney: Stewart Victor Publishing. Retrieved from http://www.michaelnewman.biz/pdf/defining_the_enemy-COMP.pdf
- Newman, S., & van der Waarde, K. (2015). Donald A. Schön: Bibliography. Retrieved from <http://www.graphicdesign-research.com/Schon/bibliography.html>
- Ramage, M. (1999). *The learning way: Evaluating co-operative systems*. Unpublished Ph.D. thesis, Lancaster University.
- Ramage, M., & Shipp, K. (2009). *Systems thinkers*. London: Springer.

- Richmond, J., Sanyal, B., Rodwin, L., Fischler, R., & Verma, N. (1998). Donald Schön – A life of reflection. *Journal of Planning Literature*, 13, 3–10.
- Schön, D. (1963). *Displacements of Concepts*. London: Tavistock Publications.
- Schön, D. (1967). *Technology and change: The new Heraclitus*. Oxford: Pergamon.
- Schön, D. (1971). *Beyond the stable state: Public and private learning in a changing society*. London: Temple Smith.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schön, D. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Schön, D. A. (1992). The theory of inquiry: Dewey's legacy to education. *Curriculum Inquiry*, 22, 119–139.
- Schön, D., & Bennett, J. (1996). Reflective conversation with materials: An interview with Donald Schön by John Bennett. In T. Winograd (Ed.), *Bringing design to software* (pp. 171–184). Reading: Addison-Wesley.
- Schön, D., & Rein, M. (1994). *Frame reflection*. New York: Basic Books.
- Schwartz, H. S. (1987). The reflective practitioner: How professionals think in action (book review). *Administrative Science Quarterly*, 32, 614–617.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Smith, M. K. (2001, 2011). Donald Schön: Learning, reflection and change. In *The encyclopedia of informal education*. Retrieved from www.infed.org/thinkers/et-schon.htm
- Waks, L. J. (2001). Donald Schön's philosophy of design and design education. *International Journal of Technology and Design Education*, 11, 37–51.
- Warsh, D. (1997, December 28). The giraffe. *The Boston Globe*, p. F1.
- Wiener, N. (1948). *Cybernetics: Or control and communication in the animal and the machine*. Cambridge, MA: MIT Press.

Further Reading

- Argyris, C., & Schön, D. A. (1996). *Organizational learning II: Theory, method, and practice*. Reading: Addison-Wesley.
- Schön's writing was extremely clear and worth reading in its own right. Much of his key work was contained in books rather than articles, and is of a nature that the whole book needs to be read to gain full comprehension. The following works are of particular significance:
- Schön, D. (1970). Change and industrial society. British Broadcasting Corporation Reith Lectures. Retrieved from <http://www.bbc.co.uk/radio4/features/the-reith-lectures/transcripts/1970/>
- Schön, D. (1971). *Beyond the stable state: Public and private learning in a changing society*. London: Temple Smith.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Works about Schön by others:
- Bamberger, J. (2000). Unanswered questions. *Cybernetics & Human Knowing*, 7, 9–16.
- Newman, S., & van der Waarde, K. (2015). Donald A. Schön: Bibliography. Retrieved from <http://www.graphicdesign-research.com/Schon/bibliography.html>
- Smith, M. K. (2001/2011). Donald Schön: Learning, reflection and change. In *The encyclopedia of informal education*. Retrieved from www.infed.org/thinkers/et-schon.htm
- Note that Schön's name is sometimes written as 'Schon' in library catalogues and bibliographies, which is incorrect but an easy mistake to make. It is sufficiently common that when searching for him online, it is best to look for both 'Schön' and 'Schon'.