

Part I

Professionalism: The Ideal Type



1

Professional Knowledge and Skill

In the most elementary sense, professionalism is a set of institutions which permit the members of an occupation to make a living while controlling their own work.¹ That is a position of considerable privilege. It cannot exist unless it is believed that the particular tasks they perform are so different from those of most workers that self-control is essential. There are other important ways of evaluating work which I shall discuss in later chapters, but here I want to establish the essential framework of distinctions that defines the type of knowledge and skill at the core of professionalism. The two most general ideas underlying professionalism are the belief that certain work is so specialized as to be inaccessible to those lacking the required training and experience, and the belief that it cannot be standardized, rationalized or, as Abbott (1991b: 22) puts it, “commodified.” These distinctions are at the foundation of the social processes which establish the social and economic status of professional work, and while they are elementary, they are too important to take for granted. Here and in the next chapter I will analyze the technical and social assumptions employed in distinguishing different kinds of work with the aim of defining the particular kind of knowledge which is granted the

1 I deliberately avoid defining “work” here and elsewhere, though in this book I restrict myself primarily to activities of sufficient value to others that they provide the performer with economic resources in an exchange system. Professionalism is by definition the creature of an official economy which defines work as a legal gainful activity. I have discussed some of the problems of defining work elsewhere as, for example, Freidson 1990.

social and economic privileges required for the institutions of professionalism.²

The Growth of Specializations

Specialization – the use of a circumscribed body of knowledge and skills thought to gain particular productive ends – is inherent in work, for it is rare that individuals are either able or willing to perform all of the tasks required for producing the food, shelter, and clothing they need for survival, let alone the amenities of life. After all, even Robinson Crusoe finally had his Friday. And since people do different kinds of work, it follows that they will be evaluated in some way or another. The degree and kind of specialization required by particular jobs, quite apart from their function, is widely used to establish their social, symbolic, and economic value and justify the degree of privilege and trust to which they are entitled.

Some degree of specialization in the work that people do is probably generic to social life. Most writers today believe that gender has been a universal basis for organizing specialization in human societies, even the most ancient, and that there has always been some specialization based on age as well, with children performing some kinds of tasks, adults others, and the aged still others. These rudimentary (but fluid) axes of age and gender upon which specialization has probably always and everywhere been based, order the various work roles that individuals adopt during the course of their daily lives in households and communities. But in daily life people perform a *number* of different tasks, each having different productive aims and requiring different skills. That is very different from my concern here, which is occupational specialization: people performing only the bundle of tasks connected with a defined productive end in an occupation.

When this narrower range of specialization becomes the source of a living, its practitioners are dependent on more than family or immediate community to provide them with the resources by which they can live. Should they specialize only in producing food, they need to enter into exchange relations with people who can provide them with everything else they need. They may specialize more narrowly – producing only one kind of food, for

² For a much broader analysis of the establishment and use of “expertise,” see Trépos 1996.

example, or, like the miller of grains, only processing food, or even, like the shaman, witch doctor, or priest, performing activities having no direct connection with material subsistence. Each additional degree of specialization increases the complexity of the exchange relationships needed to gain the resources for a living.

Full-time specialized work is generally thought to have become common first in the large, dense settlements of the early high civilizations of the Middle East, the Indus Valley, the Far East, and Central and South America (Childe 1965). There, those who performed particular tasks developed distinct and stable social identities as “trades,” many of which are still familiar to us today. In general, the convention is to characterize such trades as being specialized in producing a single product or service as a whole, from the beginning to the point where it is ready to be consumed. So one can speak of shoemakers, potters, bakers, and the like. But by the end of the eighteenth century in England, most particularly during the nineteenth century in England, western Europe, and North America, and elsewhere not until the twentieth century, the Industrial Revolution created a new kind of specialization. Adam Smith was its best-known early celebrant.

Manual Specializations

In *The Wealth of Nations*, published in 1776, Smith’s very first chapter began with praise for the way specialization increased productivity. He was not referring to the traditional trades, though they are certainly specialized. He wrote about a much less traditional form with which his vocabulary could not deal adequately. As the nouns “specialist” and “specialization” were not available in English before the middle of the nineteenth century nor in French before 1830 (*OED* 1971: 2948; Robert 1978: 1851) Smith used the phrase “division of labor” instead, and characterized the specialized enterprises of the workers he discussed as “trades,” even though they were not defined as occupations. This new kind of specialization was exemplified by Smith’s discussion of pinmaking, where the conventional, recognizable trade of pin-maker was replaced by a number of smaller and narrower, highly repetitive jobs created by assembling a number of workers under one roof and having each specialize in one of the separate tasks that together are employed to make a pin. Some workers devoted themselves to drawing out the wire, others to straightening it, still others to cutting it, or pointing it, or grinding it at the top for

receiving the head. Some made the heads, others fastened the heads to the pins, others whitened the pins, and still others put the completed pins into a paper.

By means of this kind of specialization, the occupation of pinmaker is broken down into separate, limited tasks, each part of a coordinated plan designed to result in the production of pins. Thus, the pinmaker is no longer an individual practicing a trade; the organization and its production plan become the pinmaker, and each of the tasks created by the plan becomes so narrow in scope and simple and repetitive in execution that outside the organization it is unrecognized as a trade or an occupation. It is seen only as a job or as work within the pinmaking establishment. Neither in general official statistics nor in everyday life do those jobs gain social identities based on the particular specializations of wire-straightening, pin-head making, pin whitening, and the like, though in detailed labor statistics they might be so distinguished. Outside the firm, both officially and in everyday life, the primary social identity of those who perform such jobs lies in being an unskilled or semi-skilled industrial worker, or in being an employee of a particular firm, identified by working at the firm rather than by the specific job in that firm. The work is not defined or organized as an occupation.

This form of specialization was not entirely new for the Industrial Revolution. In the fourth century BC, Xenophon described a range of specializations at the end of which there was something "less than a whole trade" that resembled what Smith described:

In small towns the same workman makes chairs and doors and prows and tables, and often the same artisan builds houses . . . In large cities, on the other hand, inasmuch as many people have demands to make upon each branch of industry, one trade alone, and often even less than a whole trade, is enough to support a man: one man, for instance, makes shoes for men, and another for women; and *there are places even where one man earns a living only by stitching shoes, another by cutting them out, another by sewing the uppers together, while there is another who performs none of these operations but only assembles the parts.* (Kranzberg and Gies 1975: 40, italics added)

If the fragmentation of pinmaking into something less than a "whole trade" during the nineteenth and especially the twentieth centuries was not absolutely new to history, it was certainly new for it to be the form of work common to a large proportion of the

labor force. It became so common that it was used to characterize an entire class of workers – the industrial proletariat.

Intellectual Specializations

But it would be a great mistake to use either pinmaking or Charlie Chaplin in *Modern Times*, for that matter, to typify all of the specialization that developed during the Industrial Revolution, for at the same time that manual specialization developed in factories, another very different kind grew up in other institutions. From the second half of the nineteenth century to the present day there has been a continuous increase of specialization in the pursuit and application of complex, formal knowledge and technique. Scholarship and scientific research, once the pastimes of such serious amateurs³ as Charles Darwin, developed into full-time, paid occupations during the nineteenth and especially the twentieth centuries. The few intellectual occupations trained in the medieval universities, the original “status professions” (Elliott 1972) of law, medicine, the ministry, and university teaching, expanded in size and were either transformed or split up into separate disciplines, many of which developed subdisciplines that split off again to become established as distinct, organized disciplines in their own right.

The practice of most was sustained by the host occupation of university teaching, but those who could practice in the marketplace became self-supporting occupations, whether self-employed, like some physicians and lawyers in some times and places, employed by the state, like jurists and some engineers, or by industrial enterprises, as was early the case for chemists and most engineers. The development of that form of specialization, which involved the middle rather than the working class, led to the coming of the “expert” and the “technician,” along with the

3 Any number of great scientists and scholars of the first half of the nineteenth century could not, by present-day official standards, be considered active members of the labor force. Indeed, most had no occupation at all, though some who lacked a private income were successful in obtaining sinecures in a government agency or clerical benefice. I call such sinecures “host occupations,” which provide a living for “parasitic” occupations like scholarship or art which cannot gain their own living. University teaching is a modern host occupation for most scholars in the humanities and many in the social sciences who cannot gain a living practicing outside them. Waiting tables is often the host occupation for American actors today.

English words (which did not exist earlier) to designate them conveniently (Freidson 1986: 12–13; Barley and Orr (1997b: 12–14). The new “occupational professions” emerged, some evolving from the old “status professions,” some from the informal economy, as uroscopers evolved into urologists, bone-setters into orthopedists, and domestic workers into trained nurses (see Dingwall 1983). Some, closer to the present day, grew up with new technology to serve the needs of established professions (see Elliott 1972; Reader 1966; Larson 1977; and, for technicians, Barley and Orr 1997b).

Types of Specialization

Mention of pinmakers and scientists as new specializations makes it clear that there is a whole range of specializations and that the differences among them are too important to ignore. Here, I shall present them as simple polar opposites although, as Littler’s analysis makes clear (Littler 1982: 6–11), to do the issue justice we must ultimately include additional criteria.⁴ Those who *celebrate* the virtues of a work-life of specialization (as did, for example, Durkheim) do not celebrate the work of the pinmakers. As we shall see in chapter 6, their kind of specialization might have been praised for its productivity, but was deplored for its effect on those who perform it. It is specialists and specializations of a different order that are lauded – the crafts practiced by skilled workers (sometimes tellingly described as the aristocracy of labor),⁵ on the one hand, and on the other, in Smith’s words, “the employments . . . [of] people of some rank or fortune [which] . . . are not . . . simple and uniform . . . [but rather] extremely complicated and as such exercise the head more than the hands” (1976b: 305).

Two major types of specialization seem evident, representing quite different *qualities* of work, with quite different consequences for those who perform them and those who consume their products. On the one hand there is the type of specialization represented by those who perform different parts of the process of Smith’s pinmaking – the type of specialization that Marx and

4 Littler restricts his analysis to industrial work, which limits its range considerably, and he does not seem to recognize how problematic it is to determine the boundaries of tasks – that is, whether there is one or many in any particular instance. I will discuss in chapter 2 the troubling issue of relativism in delineating specializations.

5 See the discussion of what is in fact a very complex notion in Hobsbawm 1984: 252–72.

subsequent Marxist writers called the “detailed division of labor.” This unwieldy and literally uninformative phrase is employed largely to characterize the work performed by semi-skilled workers in factories organized under the historic circumstances of capitalist production (though state socialist nations also organized factory production in the same way). The phrase is intended to convey the idea of the exclusive performance of tasks that are so simple and repetitive that they can be performed by virtually any normal adult – indeed, as was the case in the nineteenth century, even by children. In this form of specialization, usually called “semi-skilled labor” in English, there is said to be little or no opportunity to vary the tasks to be performed or the way they can be performed. Because the conventional Marxist adjectives “minute” and “detailed” do not capture the essential character of this form of specialization, I propose to employ the term “mechanical” instead, and speak of *mechanical specialization*. In Fox’s analysis (1974: 16), whether or not these are tasks with a narrow, minute, or detailed range, their performance is specifically organized to minimize individual discretion.

In contrast to this mechanical specialization is what might be called *discretionary specialization* (see Friedmann 1964: 85–8). What distinguishes it from the other lies in the fact that the tasks it involves, however narrow, minute, detailed, or “specialized” the range, are tasks in which discretion or fresh judgment must often be exercised if they are to be performed successfully. Whatever the case may be in reality (and that may be a matter of opinion), the tasks and their outcome are believed to be so indeterminate (see Jamous and Peloille 1970; Boreham 1983) as to require attention to the variation to be found in individual cases. And while those whose occupation it is to perform such tasks will almost certainly engage in some routines that can be quite mechanical,⁶ it is believed that they must be prepared to be sensitive to the necessity of altering routine for individual circumstances that require discretionary judgment and action. Such work has the potential for

6 Obviously, I am using logical rather than empirical distinctions. Just as no human work is ever likely to be completely mechanical, so is no human work ever likely to be completely discretionary. In the latter case, perhaps the work of the *bricoleur*, which I will discuss shortly, comes closest. (For industrial jobs, see Fox 1974: 19–21.) As to terminology, those writing about skill in industrial work link “autonomy” with high skill (for example, Spenner 1990), referring to the amount of discretion exercised at work. Fox develops this elaborately in his comparison of high-discretion and low-discretion jobs in industry.

innovation and creativity, thus distinguishing it from that of Adam Smith's pinmakers.

It may appear that I am merely echoing the conventional distinction between mental and manual labor which has a long history in Western philosophy (see, for example, Applebaum 1992; Tilgher 1958) and which was implied in Adam Smith's mention of the specialized "employments" of the higher classes cited earlier. Moreover, it is one still used by Marxists today. But used uncritically it conflates important symbolic, class, cognitive, and analytic distinctions. Certainly the implication that manual or physical labor does not involve the use of the mind is false, for little if any human work can be separated from symbolization and thought. What underlies it is not the use of the mind instead of the body but rather the *kind* of knowledge and thought that is believed to be used in different kinds of work. Mechanical specialization by definition requires primarily the knowledge and concepts that normal adults learn during the course of their everyday lives. Discretionary specialization, on the other hand, is thought to require the employment of a body of knowledge that is gained by special training – which is why its practitioners are called experts or specialists and pinmakers are not. What is needed to clarify the mental/manual distinction and refine our conception of work and specialization is an adequate conception of the different kinds of knowledge and skill that are used to guide the performance of work.

Skill and the Tacit

I have deliberately used the word "skill" in the same breath as "knowledge" because while I believe it necessary to distinguish the two, they are both essential to work and complement each other in its performance. Like all keywords, however, the word "skill" is ambiguous (see the discussion in Becker 1998: 112–16). In official statistics it is used to represent the amount and kind of specialized training that distinguishes members of the labor force. In the Marxist debate on proletarianization, where the "de-skilling" of labor⁷ is a central issue, it is used in a quite different fashion.

7 In the context of the "de-skilling" debate initiated by Harry Braverman, a brief but intelligent review and discussion of conceptions of skill in industry is provided by Littler 1982: 7–11. He concludes that the development of "specialization [in industry] is not so much a de-skilling process as one which concentrates skill into

However, in his review of the various ways the term has been used, Attewell (1990: 423) concludes that “at the core of all definitions is the idea of competence or proficiency – the ability to do something well. The word encompasses both mental and physical proficiency (i.e., skill implies understanding or knowledge), but it also connotes physical dexterity.” Similarly, the *Oxford English Dictionary* defines it as the “capability of accomplishing something with precision and certainty” (OED 1971: 2847). Skill may thus be taken to refer to the capacity to *accomplish* a task, which may be kept analytically separate from the substantive knowledge connected with the task itself. While skill is itself a kind of knowledge, namely, of the techniques for using or applying substantive knowledge, it is *facilitative* in character. Thus, to solve an abstract problem, one must not only have command over the body of knowledge connected with the problem, but also the rules of discourse (that is, logic, mathematics, rules of evidence), and the capacity or skill to employ them so as to arrive at an acceptable solution.⁸ In the case of work involving physical activity, one must not only know, for example, that operating a machine produces a particular result, but also how to operate the machine. People with the same substantive knowledge can differ in their skill at solving abstract problems and using tools or operating machines.

Some of the skills required for applying knowledge to the performance of a task are formal in character, codified in texts, or otherwise described clearly and systematically in the course of training for work. Other skills, however, are *tacit* – un verbalized, perhaps even un verbalizable, but in any case not part of a formal corpus of codified technique. This is certainly, as we shall see, the case for work that has little connection with theoretical thought, but according to Polanyi (1964), it is also the case for such exalted enterprises as scientific research. He argues that skills are an essential component of scientific discovery and knowledge, and that they are exercised according to a *tacit* art that is based on experience rather than formal theory. Such skills are learned not in classrooms, but rather during the course of working in the labora-

a smaller task range” (1982: 186). See also Lee 1981, Darrah 1994, and the essays in Penn et al. 1994 for other discussions in an industrial context, and see Block 1990: 85–118. There seems to be little validity in notions that a unidirectional de-skilling of work is occurring in industrial nations today, for in a significant number of cases there is a complementary “re-skilling.”

⁸ Much of Schön’s (1982) discussion of “reflection in action” in professional work can be seen as the skill of application.

tory.⁹ They are what he calls the “tacit dimension” of scientific knowledge, neither formal in character nor systematically articulated (Polanyi 1967). He regards knowing as

an active contemplation of the things known, an action that requires skill. Skillful knowing and doing is performed by subordinating a set of particulars, as clues or tools, to the shaping of a skillful achievement, whether practical or theoretical. . . . Clues and tools are things used as such and not observed in themselves. (Polanyi 1964: p. iii)

Tacit skills are also to be found in the performance of physical tasks, of course. Harper’s study of the mechanic and craftsman Willie, characterized as a *bricoleur* because his work consists of using and adapting whatever odds and ends are at hand to create or repair things, is particularly instructive (Harper 1987: 74). Trying to understand how Willie can do what he does successfully, Harper must invoke a “kinesthetic sense [that] infuses all of the work” (p. 131), “knowledge in the body” about “how hard to hit or twist a tool, or how to interpret the sounds of a running machine,” “how much pressure may be applied to steel rather than ceramics and the like” (pp. 117–18). Those skills cannot be codified or described systematically; they must be learned by practice, become part of the eye, ear, and hand. Ryan (1984: 192) discusses a “manual dexterity that can be developed fully only with extended practice and experience. It is this manual knack, *common to all uses of the skill*, that endows it with a high degree of transferability.”¹⁰ There are other elements of skill which have probably not yet been analyzed, to take but one example of recent papers, fresh substance is added by the analysis provided by Pinch et al. (1997) of what is entailed in learning how to spay a ferret and remove the testicles of a horse.

The same tacit intellectual skills are involved in writing a research grant, an essay, a scholarly or scientific paper, a poem, or a novel. Formal rules of grammar, spelling, and discourse can be specified and learned (some reduced to a computer program), but no set of rules can specify, for example, how much to emphasize or repeat a point, what points need examples or supporting citation, when ordinary rules and conventional forms can be

9 See the interesting paper by MacKenzie and Spinardi 1995, that discusses the role of tacit knowledge in nuclear weapons design.

10 Transferability of knowledge and skill is an additional distinction of some importance that will be discussed in chapter 3.

fruitfully violated, how much (if any) dialogue is appropriate and how much narrative, and what words or phrases, should be used to characterize a point. Such issues of skillful intellectual technique are matters of style which are analytically separate from but not independent of substance. Intertwined as skill and substantive knowledge may be, therefore, their different roles in work dictate that they are best kept analytically separate.¹¹ And as we shall see in a later chapter, the distinction between codified and tacit skill and knowledge plays an important ideological role in the arguments of workers defending their discretionary freedom.

Everyday and Formal Knowledge in Work

The productive human activities we call work are sharply distinguished from the activities of other living creatures by the fact that they are directed by knowledge. An adequate sociology of work, therefore, must also be a sociology of knowledge.¹² Unfortunately, scholars in the latter field have largely restricted their study to the cognitive work of philosophers, scientists, and scholars. An adequate sociology of knowledge must range far more broadly than that.¹³ Above all, it must recognize that all work presupposes knowledge, that it is the practice of knowledge, and that the social and economic organization of practice plays a critical role in determining both what knowledge can be employed in work and how that knowledge can be exercised. Here I will make a tentative effort to portray the full range of knowledge that is used in work, distinguishing different types by their origins and their relation to social institutions. Then I will be able to clarify the distinction between mental and manual labor, elaborate my distinction between mechanical and discretionary specialization, and delineate

11 My guess is that the best known and most admired practitioners of a craft or discipline are those with superior skill, or facilitative knowledge (style of discourse) rather than necessarily those with superior substantive knowledge (or erudition).

12 I do not discuss a third dimension of undoubted importance in many kinds of work, manual as well as intellectual – the “gift,” whose source is probably genetic. See Lioger 1993, 1996 for an interesting case study of French dowsers and their gift. My only justification for omitting it is that while it can be very important for success in doing some kinds of work, it is an individual attribute not learned in a classroom or routinely acquired by experience.

13 Swidler and Arditi 1994 report on recent efforts to extend the reach of the field.

the kind of knowledge that establishes the foundation for the institutions of professionalism.

Of the varieties of knowledge and skill connected with work we can first and most fundamentally distinguish that knowledge and skill which all normal adults must possess in order to perform the everyday tasks of daily life from the knowledge and skill needed only by those who work at particular jobs and occupations. This of course varies in time and place. Virtually everyone in our present-day society learns, for example, how to sweep a floor, use a shovel, and drive an automobile – all are part of what we may call *everyday knowledge and skill*. Some of that everyday knowledge and skill is shared by all normal adults, but the ubiquitous division of labor between the sexes results in some being gender-specific. In our society, for example, women are more likely than men to know how to cook, iron, sew, and care for infants, while men are more likely than women to know how to care for and use tools and machinery. In addition, I would guess that some kinds of everyday knowledge and skill are differentially distributed by social class, with working-class men, for example, more likely than middle-class men to know how to maintain and repair engines.

This corpus of everyday knowledge and skill, somewhat segmented by age, race, gender, and class, is used unselfconsciously: people do not reflect on it and may not even be able to verbalize it. Some is certainly tacit. It includes what Schutz (1970) and Garfinkel (1967) would call taken-for-granted activity, and what Geertz (1983a: 73–93) discusses as common sense. It is an essential prerequisite for the performance of virtually any kind of work in a society. In not yet industrialized societies, everyday knowledge is taught informally to children during the course of their lives in the household and community. In advanced industrial nations, children have been required to attend formal schools where teachers are responsible for teaching much more – such skills as reading, writing, and arithmetic, and a considerable stock of information.

It is important to note that some of what is taught in the primary and secondary schools that all children must attend is formal in character, based on abstract theories and concepts created by the intellectual classes.¹⁴ While that formal knowledge (see Freidson 1986: 2–16) becomes part of everyday knowledge, it is only a part, and a small part at that, of a much larger corpus. Some of it – what Machlup (1962: 21–2) calls “intellectual knowledge” – is taught to

14 One must not overlook the important role of the mass media, television in particular, for their contribution to everyday knowledge, if not skill.

children who obtain a higher education, and becomes incorporated into the everyday knowledge of the educated middle class. The largest part of it, however, is taught only to those seeking specialized vocations.

Unlike everyday knowledge, formal knowledge is institutionalized into what Foucault (1979) called “disciplines” and Holzner (1968: 68–70) “epistemic communities.” These are of course inevitably rooted in everyday knowledge but are organized in institutions set apart from everyday life. Special groups of intellectual workers embody the authority of those disciplines, their work being to create, preserve, transmit, debate and revise disciplinary content. The formal knowledge of particular disciplines is taught to those aspiring to enter specialized occupations with professional standing. Much of it is abstract and general in character, however, and cannot be applied directly to the problems of work. For actually performing work, formal knowledge may be needed in some cases, but so also are specialized knowledge and skill of a more concrete nature and, of course, everyday knowledge.

Working Knowledge

Borrowing from Kusterer (1978), we might call all the knowledge and skill used in work, whatever the source and the content, whether everyday or formal, *working knowledge*. His conception of it is drawn from his study of industrial and clerical workers:

All working knowledge appears to fit into one basic subject area, knowledge of routine processing procedures, and four supplementary subject areas: knowledge of the variable properties of the materials . . . processed; knowledge of variable and potentially manipulable aspects of the equipment or machinery; knowledge of patterns of client or customer behavior and knowledge of patterns of work behavior of others in the work organization, especially including managers . . . The workers’ knowledge about each of these subject areas invariably contains two elements, the diagnostic and the prescriptive. The diagnostic is made up of all the background information about that aspect of the situation that is necessary for workers to ask and answer the question, “What is the source of this problem?” The prescriptive element consists of a repertoire of previously tried and tested procedures or coping techniques that will (at least partially) solve this problem. After the problem has been diagnosed

prescriptive knowledge enables workers to answer the question, "How can this problem be handled?" (Kusterer 1978: 138)¹⁵

If we take "working knowledge" to be a general category for the knowledge employed in *all* kinds of work, however, we can only conclude that Kusterer's conception is too narrow. For one thing, it only implicitly includes the taken-for-granted everyday knowledge that supplies the background skills and understandings necessary to perform "routine processing procedures." Kusterer himself notes that "although, conceptually, knowledge acquired outside the work place and put to work on the job is just as worthy to be considered working knowledge as knowledge learned on the job itself, nobody in fact concedes this. Workers themselves . . . invariably neglected to include those procedures, such as sweeping, driving, reading, and writing, that are a normal part of their life off the job as well as on it" (1978: 138). Part of this neglect by the workers may be due to the fact that "it is the knowledge required to perform particular tasks that is more conspicuous and given more respect than commonly-held, everyday knowledge" (p. 137).

In addition to the necessity of including everyday knowledge as a component of working knowledge (and remembering that concepts and theories are not absent from everyday knowledge), there is also the necessity of including formal knowledge for at least some kinds of work. This becomes immediately apparent when we compare Kusterer's reference to the diagnostic and prescriptive elements of working knowledge with Abbott's analysis of diagnosis, inference, and treatment as "the three acts of professional practice" (Abbott 1988: 40–52). Woven through Kusterer's analysis is reference to the importance of specialized formal knowledge in conducting those activities, but it is by no means the only kind of knowledge that is employed. One component of the knowledge and skill that he examines in the work of industrial and clerical

15 Burchell et al. (1994: 159), who studied British industrial workers, put it this way: "The undertaking of different types of tasks requires of job holders varying combinations of a wide range of attributes, exercised at varying degrees of intensity. These include the ability to manipulate tools, machines, and materials; knowledge of products, processes, machines, organizations, and procedures; the capabilities of cultivating and maintaining social relationships; the acceptance of responsibility for property, output, standards, and people; physical strength; mental ability; tolerance of working conditions; the ability to organize, coordinate and exercise discretion in undertaking task requirements; and the exercising and acceptance of authority."

workers is neither everyday nor formal but somewhere in between. I suggest that most of what he discusses may be called *practical knowledge* – knowledge largely free of formal concepts and theories, learned by experience, and instrumental for performing concrete tasks in concrete settings.

In many kinds of work, what Scribner (1986) calls practical thinking involving little formal knowledge is dominant in the constitution of working knowledge. She characterizes it as “thinking that is embedded in the larger purposive activities of daily life and that functions to achieve the goals of those activities. . . . So conceived – embedded and instrumental – practical thinking stands in contrast to the type of thinking involved in the performance of isolated mental tasks undertaken as ends in themselves” (Scribner 1986: 15). Much of the knowledge and skill it employs is developed and learned situationally, on the job, as information about the tasks to be performed and as skills to be employed in performing them, and consciously used in work.

We may assume that some of that practical knowledge and skill is tacit, and therefore neither verbalized nor codified. Tacit knowledge of the concrete circumstances in which virtually any kind of work must be performed is as essential to performance as the tacit skills employed to use it. What is tacitly known and used of course depends on the particular work: it is one thing for business executives and college professors (Wagner and Sternberg 1986), quite another for tellers in a bank and machine operators in a paper products factory (Kusterer 1978), and still another for the *bricoleur* (Lévi-Strauss 1966: 21; Berry and Irvine 1986: 271–4). Scribner emphasizes the discretionary character of the practical thinking which is involved in the use of working knowledge: “one artful aspect of practical thinking is to construct or redefine a problem that experience or hunch suggests will facilitate a solution or enable the application of a preferred mode of problem-solving . . . *Skilled* practical thinking is marked by flexibility – solving the same problem now one way, now another, each way finely fitted to the occasion. . . . Only novices use algorithmic [that is, mechanical, formatted] procedures to solve problems” (1986: 21–2, italics added). Patently, by definition, those performing mechanical specializations do not indulge in Scribner’s “skilled practical thinking.”

All forms of work thus require both everyday and practical knowledge and skill in varying degrees, but only some require the specialized formal knowledge that has not been incorporated into everyday knowledge. This assumption allows us to distinguish on analytical grounds the most important element of the mental/

manual contrast – namely, that specialized formal knowledge which is not part of everyday knowledge, but rather gained through special vocational schooling, and which is a prerequisite for some kinds of work but not others. Even when the actual tasks required by a specialization such as surgery are predominantly manual, they are defined as mental because of their grounding in abstract concepts and theories. Furthermore, in recognition of the widespread and largely arbitrary distinction between skilled and unskilled or semi-skilled manual work, it is possible to delineate skilled work as a discretionary specialization based upon everyday and practical, but not necessarily formal knowledge. Manual skilled work, of course, is identified with the historic crafts,¹⁶ and is based largely on training in practical knowledge and skill. Historically, the work of the technician belongs somewhere between the crafts and professions, relying extensively on practical knowledge but also employing a significant amount of formal knowledge.¹⁷ On the other hand, discretionary specializations which do include a large component of formal knowledge in their training are identified with the historic professions. Those specializations which embody values held by the public at large, the state, or some powerful elite are given the privileged status of monopoly, or control over their own work. *This monopolistic control is the essential characteristic of ideal-typical professionalism from which all else flows.*

16 The mental/manual distinction is especially interesting in the cases of the painter and the sculptor, for not until the Renaissance did they rise above the undignified status of manual worker, or artisan, and to this day the line between art and craft has been unclear (see Becker 1982). As late as the 1970s the French census classified painters and sculptors as “artisans,” while writers were classified with the intellectual professions. See Moulin (1992: 249–74) for a brief history of the status of artists from the Middle Ages to this day, including comments on changes in their official classification in the French census and social welfare system. I might add that not until comparatively recently was surgery given more than craft status.

17 Perhaps one can conceive of an ideal-typical technician, “between craft and science,” as Whalley and Barley (1997) put it, neither profession nor craft, but something distinctly different. However, those with the job title of technician are much more heterogeneous than those called professions and crafts. Many are so newly created as to be still unformed, and as Whalley and Barley themselves recognize, are created in many different ways and for different purposes. Technicians are much too important to ignore, both because of their rapidly increasing number and their critical position in many productive institutions, but I believe it is premature to declare them a generically new form of occupation. All that is certain is that they are a relatively new bureaucratically defined job or personnel category.

Specializations

In this chapter I have located in a broader context the knowledge attributed to those workers who are given the privilege of controlling their own work and have distinguished it from other kinds of knowledge and skill. *Skill* is the capacity to use knowledge in accomplishing a task. Like substantive knowledge, it can be tacit, embedded in experience without being verbalized, codified, or systematically taught. Substantive knowledge connected with work takes different forms and is distributed among different populations. Some is consciously articulated informally and concretely during the course of everyday life, but some is so taken for granted as to be virtually tacit and not self-consciously taught. Such *everyday knowledge* is shared by all adult members of a community and, in advanced industrial societies, is composed of both the informal knowledge of everyday life and the knowledge that is taught in schools and by the media, some of which involves abstract theories and concepts. It provides the foundation for all other kinds of knowledge and skill.

Working knowledge on the other hand, has narrower scope than everyday knowledge because it is addressed solely to accomplishing work and, apart from that portion addressed to the performance of everyday tasks in the household and community, is not shared by the general population. Rather, it is segmented into bodies of *practical* knowledge and skill, both conscious and tacit, shared only by those who do the same work, sometimes in but one work-setting. Finally, there is *formal* knowledge, which is composed of bodies of information and ideas organized by theories and abstract concepts. Some of it inevitably rests on the taken-for-granted (which is to say, tacit) assumptions stemming from both everyday and working knowledge, and some of it becomes part of everyday knowledge in advanced industrial societies, but most of it is divided among specialized disciplines practiced by different groups of specialized workers.

This analysis allows distinguishing specializations by the degree to which they are thought to employ these various types of knowledge.¹⁸ A mechanical specialization is thought to employ

18 These distinctions should not lead us to forget that formal knowledge is less protected from diffusion today than it was yesterday. Knowledge and skill are not permanently imprisoned within different specializations. The schools, the internet, the media, occupations, firms, and segments of the public all interact to distribute once esoteric knowledge to lay persons, though never completely.

largely everyday knowledge and skill, some of which is of course tacit, and a fairly small proportion of practical knowledge connected with work in particular settings. A discretionary manual specialization employs a large proportion of practical knowledge, and moderate proportions of everyday, formal, and tacit knowledge. A mental discretionary specialization, on the other hand, is distinguished by its reliance on a relatively small proportion of everyday and tacit knowledge, a moderate amount of practical knowledge, and a high proportion of formal knowledge. Table 1.1 presents these distinctions in skeletal form.

These are not the only distinctions one must make in thinking about work in general and the kind of work connected with professionalism. I shall make more distinctions in the chapters that follow, including the important characteristic of *transferability*, which frees specialists from being dependent on work that can be performed in only one place and for only one employer or client. But those established here allow one to specify the ideal-typical character of the knowledge and skill imputed to practitioners who receive official sanction to control their own work. The concept of discretion is central to it and deserving of special status. As Fox (1974: 26–35) has shown at some length in analyzing industrial work, the right of discretion implies being trusted, being committed, even being morally involved in one's work. As the assumption is made that failure in work is not due to willful neglect, externally imposed rules governing work are minimized. Thus, when the practice of an occupation is believed to require the use of discretion, this ramifies into a number of critical areas having to do with the organization of work and the way the participants in that organization regard both each other and the work they do. The ideal-typical position of professionalism is founded on the official

Table 1.1 Relative proportion of each type of knowledge and skill in each type of specialization

<i>Type of specialization</i>	<i>Everyday knowledge</i>	<i>Practical knowledge</i>	<i>Formal knowledge</i>	<i>Tacit knowledge</i>
Mechanical	High	Low	Low	Moderate
Manual discretionary	Moderate	High	Moderate	High
Mental discretionary	Low	Moderate	High	Low

belief that the knowledge and skill of a particular specialization requires a foundation in abstract concepts and formal learning and necessitates the exercise of discretion. When so recognized, a number of distinctive institutional consequences follow, the first of which has to do with the organization of the division of labor.