

Guide in working life

Gunnar Björing

Boksidan

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Translated from Swedish to English by Google translator and Gunnar Björing.

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This book is based on experiences I have done as a worker at various sites for shorter or longer periods, sometime from the mid 80's and some 20 years. It describes my memories of what it was like on these. Which of course is not necessarily true or conform to others' ditto. In addition, the situation in the mentioned works may have changed significantly since then. My aim is to present a fair comparison between different jobs, with respect to certain factors that have an impact on every person's daily well-being. The focus is on factors that are normally concerned only fleetingly in, for example, place ads. My belief is that the main strength of the text is that the same person (I), has compared a number of quite different workplaces. Unlike other sources of information about the world of work, where different peoples estimates are compared.

An important question to ask yourself before your entrance into the labour market is: what do I mainly want to get out of my work? There are a number of common ways of reasoning about this, tentatively:

A. It does not matter what I'm working with right now, because I just wants to make money.

B. I want a job that gives me prestige among those that I want to be with (for example, by title, salary or by the nature of the work).

For anyone who recognizes himself most in alternative A, it might be just enough to study the wage statistics, see, for example, Statistics Sweden (SCB, 2003), or www.lonestatistik.se, for suitable jobs and then seek work from top to bottom on the list. One advantage with this approach (in addition to salary) is that it eliminates all the speculation about which occupations fits ones personality. A risk with the approach, however, is that it may result in that the person gets stuck in a career that he/she does not feel comfortable with, but "cant" change because he/she has adapted the life situation after the relatively good incomes.

For those who instead recognize themselves most in option B, it is a good strategy to ask: what the prestige values are for the jobs that it would be possible to get? And also then look from the top down, with virtually the same benefits and risks as above.

But someone who wants to get something else out of their future work, might benefit from reading further in this paper.

Independence

It is difficult to know what work that would give the most satisfaction. The main reason for this is that the relationship with colleagues/bosses is difficult to assess in advance. But the chance to make a successful choice is increasing if the social conditions and working conditions in general, fit the personality. Even those who never had a job before, can to some extent form an opinion about what would be appropriate, through looking back at his life. Everyone has probably cooperated, under more or less labour-like circumstances, with others before. And, in the lack of better, they can analyze the experience with the questions suggested below:

- Do you prefer that others tell you what and how to do, or do you want to find it out on your own?
- How do you feel when someone complains about that you have not done what you promised to do?
- Do you like to hang out in a big group, or do you prefer a more intimate contact with a few people?
- Do you prefer to work on your own or with others?
- How hard do you find that it is to deal with if people complain on you?

The first two listed issues affect an important parameter that distinguishes different types of work, namely, the degree of independence. In a dependent work someone else have constant control over when and how the tasks are performed. Very dependent tasks, for example those who drive trains, works on an assembly line in a manufacturing plant or as a shop assistant in big shops. The major disadvantages of this compared to more independent work, I think, is that you can not take breaks when you need it the most. The possibilities for small un-scheduled brakes (to rest a little, do some private conversation, or other private things) are very limited. The biggest advantage, in my opinion, is the absence of requirements/expectations of own initiatives. It also means that it is allowed, with good conscience, to enjoy the small breaks that are offered. Another advantage is that, relatively to more independent occupations, the performance stress probably will be lower. As the result, more or less, is limited to either performance approved or not approved.

The most dependent jobs I've tried and/or studied is the work on assembly line-like production in the manufacturing industry (Mathiassen et al., 1996, Björning 1996). All came more or less simultaneously to work and they went straight to their work-place and started working. Then stood at the same spot, and did exactly the same things, without pause, until the common breakfast break a few hours later. The breakfast pause lasted about 15-30 minutes, and then all went almost simultaneously back to their workplace and work continued until the lunch break. The lunch pause lasted maybe half an hour, then went in more or less in common troop back to work and continued to work until the coffee break. After the coffee break, they continued in this way until it was time to go home. Between the breaks, they worked almost without interruption over the whole working day, and they worked actively throughout 70-80%¹ of the time.

¹ I.e. 70-80% of the time, they performed some assembly work with their hands. During the rest of the time (20-30%) they waited on materials, talked to colleagues, went to the bathroom and more.

The majority of the workers I studied in the manufacturing sector had very little influence over the operations that was to be done, when they should be done, in what order and how the work-place was designed (where different things should be placed), because such decisions were taken by the production engineers. Most of the industrial workers I interviewed, however, seemed to be satisfied with their jobs, because they neither changed employer or occupation for many years.

The most dependent jobs I myself have tried were as cashier at some major stores (see figure 1). There I had a somewhat greater freedom over my working hours than employees in the manufacturing sector seem to have. Since there were more different working hours to choose from, because the stores had long opening hours and the need for staff also varied over the week. In addition, I had probably a certain freedom to choose early or late breaks, although I have no recollection of that I was offered that opportunity. But I had very little influence over what to do, when it would be done, in what order, or how quickly I should do it. Such decision was taken by my managers and clients. I had little influence on how the work-place was designed, as I shared it with several colleagues and neither had the time nor the right to change it.

As a personal assistant to a handicapped person, I had really no control over my time, what I would do, or when I would do it. Since it relayed on the client's wishes and needs. Though in this work I did not notice the restrictions, since I knew I would have time to satisfy my own needs after the client's wishes had been fulfilled.

When I was a process controller, I also had no control over my time, what to do or when I would do it. One of my process control works (central guard at a prison) was to look at a number of TV screens that continuously filmed a number of corridors. The task was that when anyone who went into a corridor came to a locked door, I push a button so the door was unlocked. If I missed pressing the button, I usually hear the sour cries from the men in the corridor. Compared to the work as a personal assistant, I had even more spare time, but I was bound to keep an eye on the TV screens. Also I had no control over when something would happen and it was therefore very difficult for me to use the spare time to do something fun. Overall, this meant that the work gave a much stronger feeling of having no control over the work compared to as a personal assistant.

A step up in the level of independence, I took in jobs were I decided when things would be done, for example, as a truck driver. A typical day started at 7:00, to retrieve the truck and the driving order for the day. Then I went to the place where today's goods were to be loaded. I could load the truck as I pleased and I tried to do it in a way that I suited the driving order for the day. Afterwards the day was quite given, but I decided everything about driving and when I took my breaks.

In all white collar jobs, the degree of autonomy has been even higher. Since I both planned my time throughout the working day and also when it should begin and end. Some great benefits of this was that I could come and go almost as I wanted² and I had plenty of opportunities to take breaks, do private matters and socialize with colleagues. The biggest drawback was that I felt more performance pressure than in the majority blue collar jobs.

I climbed another step up the alley of independence in the works where I even decided how things should be done and at best what to do. However, I have not had so many jobs where I actually got to do that. As it almost always have been a lot of more or less unwritten rules about how the job should be done.

². Although the employer in most workplaces I have been on, applied some form of flexitime system with compulsory attendance 09.00 - 15.00. But I have very rarely heard complains due to that I had come later or gone before this time.

But it has felt as if I decided much more in some works than in others. A crucial difference, I think, is how the directives of the tasks have been designed. Take for example the following, fictional, example in which a person is given the task to clean up a storeroom. If the directive were given in detail, it could be like this:

"Set the three boxes on the floor, put the blue box on the top shelf, and put things on the middle shelf in a red plastic box and so on."

If the directive is instead given at a general level, it could instead be like this:

"I want there to be plenty of room for more stuff in the store and everything should be easy to find."

In the latter example, the degree of autonomy is significantly larger than in the former. And in my opinion, so is the potential for the work to feel inspiring.

I have worked as a gardener/outdoor cleaners with directives of both types. First, the work was pretty funny because the directive was of the latter kind (make a newly rebuilt office area with associated plantings as nice as possible within a certain time). When it was ready, after a few months, I instead had to work with an experienced colleague who chose to give me detailed directives on where, how and what to do, like to pick garbage there, which suddenly made the work much more boring.

Even as an official I have met directives of both kinds. For example, I worked as a technician in a place where I alternately worked for two different managers. The first gave very detailed instructions, and he was barely responsive to any questioning. When the work was done and I presented the result for him, he often came with very extensive changes so that I had to redo large parts. Over time I felt that the job was pretty useless and my efforts were reduced to just do exactly what he told me to do, with as little personal commitment as possible (the more I became involved, the sadder I became when the boss wanted to change what I have done) .

The second boss however gave me directives in the form of an idea of what she wanted to be done, but I had to figure out how it would be done myself. When I later presented the results for her, her criticism constituted of encouraging tips on how the results could be better. Overall, this meant that it really was a joy to work for her.

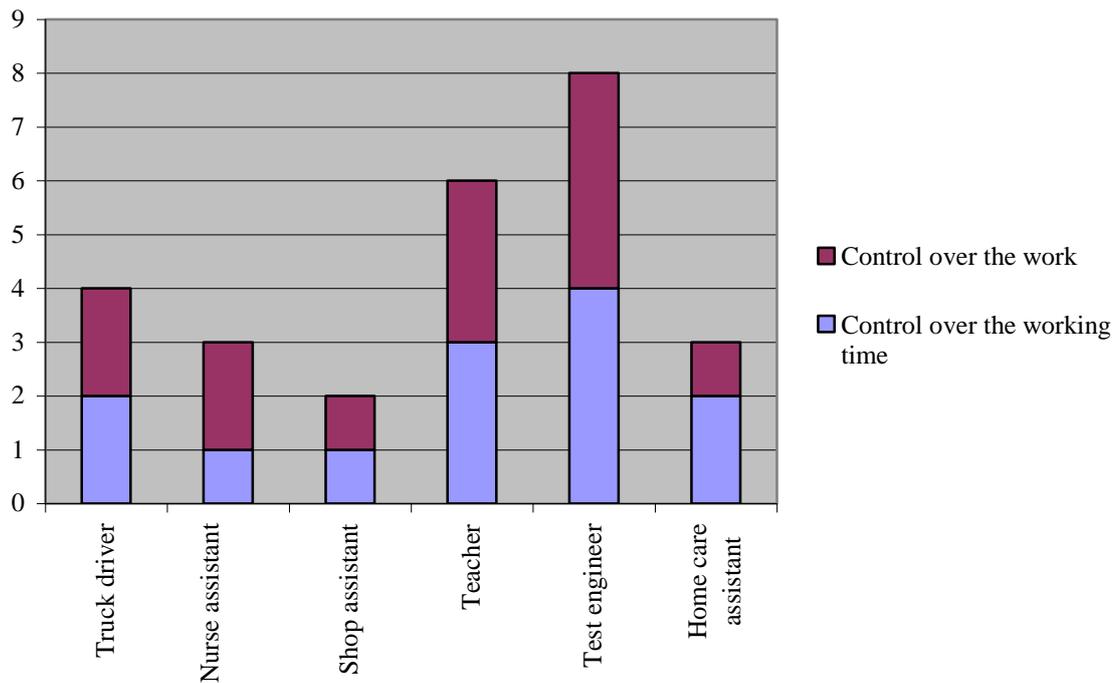
I have several similar experiences, both in performing tasks for others and to ask others to carry out tasks for me, which can be summarized as:

The more the client has confidence in that the contractor is doing a good job, the greater freedom the contractor will get and the less picky follow up of the results.

Though what various clients think are a good results differs. Some appreciate that the job is ready soon, others appreciate that it gets inexpensive and still others focus only on that it is neatly done. It is not obvious that one's own perception of what is a good result is the same as the client. The more the client believes that there are different perceptions, the greater the risk that he wills micro-manage/monitor the execution. Thus, those who want the client's trust, figure out what the client thinks is the most important thing, and then embrace it as their own primary goal.

For example, I worked as a test engineer at a large company in the engineering industry. We engineers used continuously to buy new test equipment for quite a lot of money. We thought that, among all the things we could buy, would choose the most affordable or cheapest stuff to be able to afford more equipment (the biggest bottleneck was often the lack of test equipment). But when we presented proposals of new equipment for the head, we noticed that he shrank from argument like that the equipment was affordable, or even worse, that it was cheap. For him it was very important that we had the best that was available, regardless of whether we really needed it or not. So we learned to look for the finest equipment we could find and then present it to the boss with words like:

"It is certainly expensive, but it has significantly better performance than competing models."



Control over the working time

1 = Completely scheduled working hours in which I did not even decide when I took a break/pause, or what I should do next.

2 = I decided to some extent over when I would take a break/pause and what I would do next.

3 = I decide completely over breaks/pauses and to some extent over when to start/finish the working day.

4 = I planned the time myself.

Control over the work

1 = I took no decisions at all, everything was determined by instructions from supervisors, colleagues, or customers/patients.

2 = I decided how the work should be performed.

3 = I decided how the work should be done and to some extent what to do.

4 = I decided pretty much also what to be done.

As a nurse assistant others mostly advised me on what I should do next, but I could to some extent decide how I did with the patients, because most of them were so tame that they did not have any demands.

As a shop assistant i did not decide over anything.

As a teacher, I had quite a lot of freedom to decide over my working hours, apart from the time I was scheduled to hold lessons. I also had quite a lot of freedom to choose what to do during a lesson, provided that it was not aposed to the national learning plan and that I did what I had planned together with my colleagues.

As a test engineer, I had great freedom to decide over my working hours, provided that I was available during office hours and came to all the meetings. I also had the freedom to make decisions about when, how and what I would do if I followed certain directives and maintained a certain production.

As a home care assistant, I decided to some extent over when I would go to whom and how long I would stay there. As a rule, however, the users decided how and what I would do.

Chart 1. The degree of independence in a few different jobs.

Variation

Some like variation, others do not. And different people have different opinions about what variety means. What I think is variation might show from table 1. Others see variation in jobs that I think are monotonous and vice versa. When comparing, for example, a task that is to write different things on a computer in an office to stand in a checkout counter in a store. The work in front of the computer may seem very one-sided for the person sitting at the counter, because it means very similar movements all the time, the same image before the eyes, and no meetings with people besides single colleagues. The clerk, however, would maybe perceive the work at the counter as very monotonous, because in the clerk's eyes it always causes very similar intellectual considerations.

If the clerk and the store cashier would change jobs with each other while maintaining the same perception of what variation is, they would probably soon find that the work was dull. But my experience is that, fortunately, I changed perspective when I changed jobs, if I have felt engaged by the new task. In works where I have not felt engaged the working days, however, have felt very long. And for me to feel engaged in the task it requires at least the following:

- I want to feel that the job is meaningful for the employer.
- I want to feel that I perform the task reasonably well.
- For me to feel that I perform the task reasonably good it requires that the task includes elements that can be performed with different quality. If not, it remains to try to make the steps more quickly or while doing something else that provides a small challenge, such as talking to colleagues. If none of this is possible remains only to try deaf myself through, for example, listening to the radio.

Table 1. Grading of a number of jobs regarding time to make private matters and variation.

	Time to do private things while working	Variation
Labour inspector	4	3
Shop assistant	1	2
Caretaker	2	2
Research engineer	4	4
Youth leader	2	3
School teacher	4	3
Home care assistant	3	4
Bell boy	3	4
Machine designer	4	2
Jailhouse worker	3	3
Truck driver	3	2
Limousine driver	3	3
Process controller	3	1
Assistant nurse	1	3
School caretaker	3	2
Technical writer	4	2
Telephone operator	2	1
Test engineer	4	3
Gardener	2	2

Time to do private things while working

- 1 = There was neither time nor opportunity to do some private things except during breaks and pauses.
- 2 = Some opportunity to make brief private conversation or similar while working.
- 3 = Plenty of time to do private things while working, but it was not allowed to leave the workplace.
- 4 = Very much time to do private things and it was possible to, for example, go shopping during the working time.

Variation

- 1 = A single task that was very monotonous and it was conducted at a single location without meeting other than colleagues.
- 2 = Some tasks with different characteristics, but the people I met were quite similar.
- 3 = Many tasks with different characteristics or I met people who behaved differently.
- 4 = Many tasks with different character and I met people who behaved differently.

Sick leave

There is a big difference between jobs, in how much I have been on sick leave. In most white collar jobs, it has been possible to work at a slower pace and do less demanding work when I have felt a little sick. In addition, I have been able to come later and go home earlier these days. In many blue collar jobs, however, I have not had the opportunity to do less demanding tasks, when I have felt bad. In some places, it has not even been possible to work slower. And many times it has been fixed working hours without being able to go home earlier. Moreover, it did not, on some jobs such as at the hospital, make sense to go to work if I was a bit sick, because it would mean that I risked infecting the poor patients. Finally, in a number of office jobs it was harder for me to go on sick leave as it would have meant more work for me afterwards, because nobody else was doing my work when I was away and it constantly flowed in new assignments. Thus, I have more frequently been one sick leave on some blue collar jobs compared to most office ditto, though I have not really been sicker.

Business trips

In my experience white collar occupations also have a small advantage in that they often include more business trips. A business trip is a trip paid by the employer, with a mission, to a place that is not the regular workplace. The type of business trip that most people do is the conference trip. In all places where I have been employed as a civil servant, we have occasionally gone on such trips. However, I can not think of any place where I was employed as workers and had to go on a conference trip. These trips are usually quite similar. They start with a ride to the conference centre, maybe 10-50 kilometres from the workplace. There it is offered refreshments and cheese sandwiches with cucumber. The manager wishes all welcome and then follows some form of lecture until lunchtime. The lunch is usually very tasty and far above what canteens usually offers. Afterwards some kind of, more or less, serious activity awaits until five o'clock. Then one has some private time or perhaps some drinks in any study rooms, until dinner at six-seven. The dinner usually is very good with the beer and wine that makes the conversation a little more relaxed. At nine-ten o'clock sometimes cheese trays or similar is served and then the schedule is free. Next day it's some kind of activity until lunch and then it's over. I think such exercises are quite nice, especially since I like food. But they do not affect my opinion of the work, since they are far too infrequent to have a real impact. Additionally the activities often feel quite useless (they are usually of the type "develop yourself or the organization through singing together").

On other business trips the aim is to perform some kind of assignments somewhere. The main advantages, I think, are that I got per diem, lovely hotel breakfasts, was treated with respect and got free lunches. In some cases, I have also been invited to fantastic dinners and spectacular evening activities. As an added bonus, I may have seen or experienced something new. When colleagues have joined me on the trips, our contact has in general got deeper and more personal, than in the daily work at home. On journeys abroad, these benefits have often been even larger and moreover, I have had opportunities to buy something fun, or been able to stay for the weekend (which for some strange reason, in the past, made air travel much cheaper).

A major disadvantage of business trips, however, was that the days often started very early, followed by a long working day and perhaps afterwards a pub round until late at night. And the whole time I felt as if I was expected to be very alert and over nice. The worst was trips abroad, because the plane often started so early that I was dead all day. The second biggest drawback is that I usually sleep pretty poorly on hotels. Maybe because I am so stressed, or

that it is noisier/warmer than at home, or just lonely.

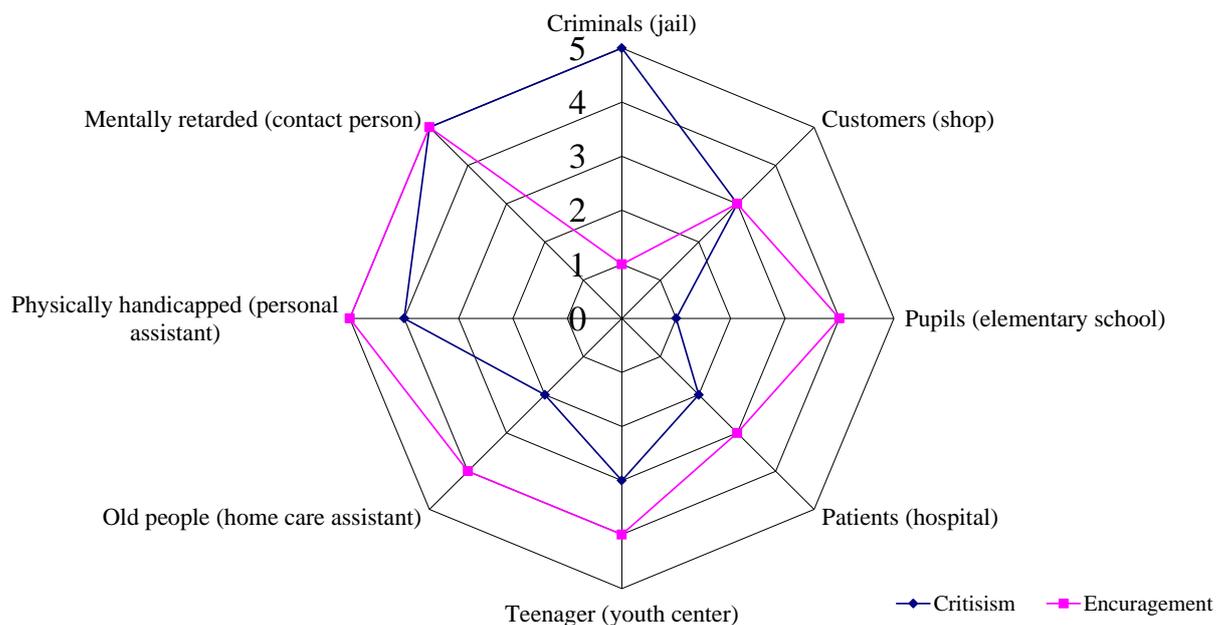
Organized meetings

Another phenomenon that white collar workers, in my experience, come into contact with very often, but workers almost entirely miss is organized meetings. I think it might be fun to attend meetings if I felt involved. Which is easier to do if there is a small group, where I dare to speak and the meeting is about topics in which I have something to say. If not, the meetings may instead be very tedious. For example, I was at a workplace where the boss every day held a meeting for an hour with the whole group (maybe 10-15 people). Most of the time was spent listening on the boss telling us about things that did not involve me at all. These meetings felt completely pointless and they were a constant torment.

In other white collar jobs, in contrary, the majority of meetings have offered opportunities to participate actively.

Conflicts with “customers”

An advantage of the many office jobs compared to working ditto is that the potential for conflict with "customers" often been less imminent. In jobs which include a lot of direct contact with customers/patients/clients/children, I have always lived with the risk of getting complains (see figure 2). But I do not think I have taken it so personally, when the complains have come from "customers". Probably mostly because of that the criticism as a rule was not aimed at me personally. And besides, I have in general been supported by colleagues when the "customers" came out of earshot.



Criticism

1 = I ended up in the conflict and was criticized several times per day.

5 = I almost never ended up in conflict.

As a prison officer, for example, did I almost never get in conflict with "customers." But as a teacher, however, I had to take conflicts with the children constantly.

Encouragement

1 = I almost never got encouragement from "customers", except when I did not want it (when someone obviously wanted to win an advantage).

5 = I received encouragement at least once a day.

The occurrence of conflicts with "colleagues"

Conflicts with colleagues, however, have sometimes been so awful that I barely managed to go to work the next day, even if the work itself was fun. On the other hand, encouragement from colleagues gave more satisfaction than ditto from customers/clients/patients. And encouragement from people who I felt inferior to, like been bosses or experienced colleagues, gave the greatest satisfaction.

The risk of conflict with colleagues was definitely the greatest in cases where I have worked with others in the same task, such as in a hospital where we were two people who together made the beds in the hospital halls. In this situation, one had to subordinate to the other's way of working otherwise it was very strange. Then I sometimes, as a subordinate, felt stupid and run over. And as the dominant one, I felt at times that the other one was lethargic or fussy. Neither was particularly fun. But on the other hand, it was fun when the task went smoothly with someone. Which, in my experience, came with time.

Among my jobs I had the least contact with other people as a lift attendant in a small ski resort where I was the sole employee. The only task (except to start the lift when the session started and shut it down when it ended) was to sit in a small house and watch the lift, ready to press an emergency stop if someone would fall. Most often, I met no one during the entire working day. The advantage, in addition to that the risk of conflict with colleagues was eliminated, was that I could do whatever I wanted (for example, read a book, or study) when there where nobody in the lift. In the event that someone used it, I had about as much freedom except that I had to be near the stop button and should keep an eye on the skier when he went in the lift. I thought it was a great job since I was a student (and was happy to get paid to do my homework) and also knew that it was for a limited period of time (as long as there was snow). But if it had been a permanent job, I think that in the long run, I would not have coped with it, because it contained no social interaction or challenge whatsoever.

Chart 2. My experience of the risk for criticism and the chances of encouragement from customers/patients/clients/children in a few different jobs that I have had.

The quality of the community in the workplace I think, as I said, has been very important for whether I liked it there or not. If the community was good it raised the whole impression of the work and it was fun to go there almost regardless of the nature of it. But if the community was poor, I prefer to be without it. The worst community I have experienced, I experienced when I practiced on an assembly line in an assembly plant. There seemed like colleagues did not talk to each other even during the breaks. They sat, each with a crossword puzzle and ate their sandwiches. Although they shared the same coffee table. The second worst community I experienced when I worked in an office where I had share coffee table with a woman who spoke almost incessantly about her and her experiences. I do not really think it was her fault, it was probably more that we encouraged her. Maybe because we had nothing else to talk about?

The best communities I have found have been in workplaces where we have been very mixed in terms of age, gender and background (see table 2). The most mixed workplace I have worked on where the labour inspectorate. There was about as much men as women, pretty evenly spread around the ages from 30 years to 65 years, with varying degrees of education and work experience. Which made the conversations very open, with a wide range of topics.

Challenges

When I've been newly employed at a workplace, it has obviously been a lot that has been new. In particular, the first work where it even was new for me to work. Which meant that there were a lot of things that I could not, but any other new recruit could. For example, to understand how I should approach my colleagues and managers, or to understand how the pauses worked.

Although I later learned that such things to some extent differ between various sites, it became in time much easier to embrace the daily routines. It meant that I quickly came to the point where my colleagues were mentally. That is to fully grapple with to master the professional challenges involved in the particular the job. These challenges may have been to find the way through town and drive a lorry (truck driver), operate the controls on some control panels (bridge operator), formulate instructions (technical writer) and so on.

Before I reached the point that I found myself on the same level as my colleagues, I think it felt as if everyone else was much smarter than me. Their comments were smarter, they made a fool of themselves less often and so on. But once I been there, I have often found that I am actually not more stupid than others. In addition I have often, over time, realized that some colleagues that at the first meeting sounded very clever, really are quite parochial or nagging.

It has been a very big difference between jobs in how long it took until I felt that I mastered³ the most common challenges. In some places, it has only taken a few days while in others, it has taken several years. When I then think back on how it was originally it has, in several works (those where I produced something), struck me how my production has increased over time, even though I strained myself less and less. Unfortunately, it is often the case that once I mastered the challenges, I have also lost the feeling of personal development in the work.

When the tasks no longer given me a feeling of personal development, I have sometimes got uninterested in the job and then just done it for the money. If I've didn't have nice colleagues, and the work wasn't exciting, and I wasn't able to develop personally in any other way.

³. With mastering tasks I mean that I no longer feel any uncertainty about how to do it. It does not mean that I not had to think. But if I had to think I have been clear on what considerations I need to do and why, and I have had the skills needed to do so. Even when I felt that I mastered the work, it has obviously still happened that I've done mistakes. The difference is that the uncertainty in how to think/do and the uncertainty of whether the results will be correct or not have disappeared. The sense of uncertainty, which creates excitement in life, is gone.

Table 2. Grading of a number of jobs on social interaction and excitement.

	Socialising with colleagues	Excitement
Labour inspector	4	2
Shop assistant	2	1
Caretaker	2	1
Research engineer	4	2
Youth leader	4	3
School teacher	3	3
Home care assistant	3	3
Bell boy	4	2
Machine designer	3	2
Jailhouse worker	4	3
Truck driver	1	2
Limousine driver	1	3
Process controller	1	1
Assistant nurse	4	3
School caretaker	1	1
Technical writer	3	2
Telephone operator	3	1
Test engineer	3	2
Gardener	2	1

Socialising with colleagues

1 = Working alone without colleagues.

2 = Working alone, socializing with colleagues only during breaks and the talk was mostly about work. When talking about non-work related things the subjects and the nature of the altercation were standardized (a certain jargon was applied).

3 = Socializing with colleagues just during the breaks, but the conversations were open and without standard jargon.

4 = Socializing with colleagues also during work and the discussions were open.

Excitement

1 = The same thing happened all the time and anything interesting/exciting rarely happened.

2 = The tasks could be interesting, but it rarely happened things that someone else would be interested in hearing.

3 = Sometimes exciting things happening that was worth telling anyone else and quite often, something happened that would have been worth to tell at home.

Personal development

Personal development can be to get better/more suited for the benefit of the employer, better suited for a further career in general, for personal benefit/joy, or that ones social skill is improved. The personal development can both be in line with the employer's intentions or otherwise. Examples of the latter are, for example, to develop a skill in sleep so that it looks like the intensive studies of the computer screen. Alternatively, perhaps the work provides good opportunities to, for example, read books. Which I could do as a bridge operator, lift attendant, school janitor, prison officer, night porter at hotels and as a personal assistant to a handicapped person.

The courses that various employers have provided have mainly given me the following benefits:

- During the courses the schedule has generally been better than the regular working hours, often starting later than the time when working normally starts and the days also tend to quit earlier.
- Free food, which also frequently have been better than brick lunches in canteens and the like.
- The tempo on the courses has often been pretty relaxed.
- It is often quite nice during the breaks because everyone has something to talk about (for example, what they think of the course).

Though there is very little of what I learned in such courses that I later have found useful in other jobs. Thus I do not think it's worth to be attracted by if the employer in the job advertisement writes that they provides internal courses, in the belief that it will make one more attractive on the labour market in general. If it is not about training that is mandatory for certain jobs, such as driving license for heavy vehicles.

The work-place owner

In several contexts the employer split up after who is the principal, that is, who is the owner (the state, municipalities/counties or individuals) and the form in which business is conducted (authority, profit based companies or non-profit organization). In my experience, the differences in life in the workplace, depending on who the owner is, may not be so big. The major difference lies in whether one's own group is sailing in economic headwind or tailwind. I worked for several years at a large state university. The first year I belonged to a group that sailed against the wind and the atmosphere in the group was pretty dismal. Then we were merged with another group that sailed with the wind, because their courses were popular among students (institutional grants are paid in proportion to the number of students enrolled in their courses, combined with their length). There the atmosphere, as far as I noticed, was very positive. The department had even so much money that they reached the ceiling for how much they could to have, and therefore they had to spend a part of it on expensive celebrations and conferences. I have also worked on two different authorities dealing with the same topics. The first had the opportunity to make money, through holding courses and apply for grants from various research funds. Additionally they received during my time increased funding from the state and therefore could expand the business. There, the atmosphere was quite positive and I rarely heard any discussion of why some got benefits and others did not, although the benefits were very unequally distributed. Then I worked at another authority which had no opportunity to increase our incomes. The budget was completely controlled from the top and there was a lot more discussion about who got a new cell phone or a pay raise. Although the benefits were fairly evenly distributed.

The same pattern I have met in three different departments in a large private company, of which the first two were considered to belong to the core business. Both departments worked with developing the next generation of the company's products. But the purpose of the first was to ensure the product quality and the purpose of the second was to document the products when they were finished. The first section was considered by most people, to be far more important than the second one and it was noticeable that there was rarely any trouble getting the resources the department considered to be necessary, even though the project was approaching the end for them. The second section, however, was just in the beginning of the documentation work and it was reasonably clear to everyone that they would not be ready in time. Nevertheless, they did not get resources to address even the most obvious bottlenecks in their production.

The activities that were not considered to belong to the core business, such as maintenance of buildings, had been spun off into a separate company who took charge for their services. The idea was probably that they would be more effective by having clear goals to work against (i.e. making money). My experience of both procures work from the organization and to work in it was, unfortunately, that it was very expensive to use it. It led to that some of the staff in the parent company chose to do, for example, minor renovations themselves, or to outsource tasks to external actors. Which in turn contributed to the maintenance staff at times had too little to do and the mood among the staff was quite poor.

In most jobs, the staff some form of power over the other party. A craftsman can choose to do the work more or less good or even to not do it at all. Anyone who is in a store may choose not to help a customer in need. In both cases, the staff can penalize the customers they do not like and favour those they do like. Those customers who do not feel well treated are then usually able to go to another craftsman or shop. They then have no legal means to force the customer to buy their services/products. This is different from authorities, where customers usually can not choose to go to a competitor, if he felt unfairly treated. And they have some powers to force "the customers" to do some things. If the customer still does not obey, they have some leverage. The clearest example exercising authority, is the police and it is the authority that has the greatest power to force others.

There are also a lot of other organizations exercising public authority, some of these are even private, like security companies, or government owned companies such as Systembolaget (alcohol shops) and Bilprovningen (mandatory car testing), or local governments such as social services or local environment inspectors.

During my time at Systembolaget the exercise of authority primarily was seen in that we were:

- Not allowed to pretend that we've seen a customer in the store before. This meant that even though some of them came into the store several times a day (which happened) and bought the same things (which also happened), it was not allowed to take any notice of it.
- Had the right to check the age the customer before they were allowed to buy anything and the staff had strict orders not to sell to someone whose age seemed hesitant.
- Not allowed to sell alcohol on credit.
- Did not have as our primary goal to sell as much as possible. The main goal was instead that the checkout would sue in the end of the work day.

I think that the exercise of authority clearly enriched the work, made it a little more exciting and it meant that I was more important than in other stores where I have worked. In addition, I have exercised authority in some government agencies (Probation/jail administration, Work Environment Authority/Inspectorate, the National Courts

Administration and at a college) and in a number of municipal activities (teacher and bridge operator).

A very important part of the activities of such institutions is that everyone should be treated equally regardless of who they are. It, in my opinion, affects work pretty much. And where I failed to be fair, it has given me remorse. Maybe it's not so hard to be fair as prison officers at a prison, because the work did not force me to take a position on so many issues. Since someone had already decided everything that needed to be decided in respect of any inmates conditions. And the procedures I had to follow regarding the inmates were easy to follow and maintain. They were locked up and were only allowed come out once a day and then I followed them to the yard, in addition, they had the right to visit the toilet, as often as they wished. The food was the same for everyone and it was distributed when it came. The opportunities I myself had to treat people differently were largely limited to:

- How fast I was unlocked the cell door when someone wanted to go to the toilet.
- How much I frisked someone after he had received a visit.
- How long I allowed the inmates interact with their visitors.
- How and what I spoke to them about (I was perhaps the only one they talked to on the whole day).
- To what degree, I met their preferences regarding food and books/papers.

As far as I remember, it was never a problem with this because all of us strove to meet the prisoners' wishes as best we could within these narrow confines.

In other works which included authority, however, there has been much more difficult to treat everyone equally. Partly because of differences in how I acted in different situations, but mainly because of differences between colleagues. Even in such a simple exercise of authority as the one I had as a bridge operator, neither me nor the whole group acted the same in different situations.

The efforts as a bridge operator were to open the bridge for high boats. In the summer, there were many sailboats passing. Every time the bridge opened it became queues on the road. In order to avoid that the car traffic would be too suffering (they drove the probably not there just for fun), we tried to limit the number of bridge openings for sailboats. There were no from above given rules for how we should act, but to be fair to both the traffic and the recreational boats, we agreed on the following rule:

The sailboat that had waited the longest should have been waiting for at least one quarter, but no one should have to wait for over half an hour.

Apparently a very simple rule, but it was still not possible keeping it fully because I did not always see when a boat came, and some boat owners were so obstinate that I felt compelled to obey. Moreover, it seemed silly to keep the rule in the middle of the night, when the next boat probably would not come in several hours.

Salary/reward level

An important factor in the choice of work is of course the reward level. About this I do not have much to say because it is a factor that is just as easy for anyone to compare. Detailed statistics is reported annually by Statistics Sweden's in their Wage Statistical Yearbook (SCB, 2003) and may additionally be downloaded from www.lonestatistik.se. But it is not just the level that differs between jobs, but also the design of the reward system.

Salary/reward system

The least satisfactory reward system I have experienced they had at a publishing company where the work was to use my own phone to call people and try to get them to join in the publisher's book club. The pay was performance-based, meaning that I only got any pay if I managed to persuade someone to join the book club. Moreover, they had no special offers to attract customers, who had made the work easier. I did manage to attract a single person to become a member, so the only thing I got out of the job was a higher phone bill.

Far from all performance-based wages is that miserable. Later I sold insurances over the phone. The work was to attract people to want to be contacted by an insurance salesman. For every person who then signed an insurance policy, I got a commission. And additionally I got SEK 5 for every person that ever answered when I called. This meant that it did not play any significant role whether someone was interested in insurances or not. I made more money just to get hold of people and present my case as soon as I could.

In addition, I have also tried to be vendors with fixed salary. The work was to hand out samples of a language course and thus get people interested in buying a complete course. Few of the people I met, however, were even interested in receiving my gifts. But since I had fixed hourly wage it did not matter to me. The combination of that most showed a clear lack of interest and that it was impossible to check how diligent I was, however, my motivation decreased in a way that the employer would not have liked. In retrospect, however, I think it was perhaps a little naive of the employer to offer such contracts to teenager and think that they would be diligent.

The most motivating and fun performance-based pay system I have experienced are the ones who were based on that I could get the tip. I have tried such system as a bell boy (=carrying bags) at a few different hotels. The work was roughly that I was standing in the lobby waiting for a guest with big bags to enter or leave the hotel. Then I tried as elegant as possible to sneak up and take the bags from him or her. In between, I helped out with a bit of everything at the reception and kept neatly in the lobby. What made the work fun and motivating was that I immediately got a reward (tips) when I did a good job. Urge to get more and more tips made the work both exciting and challenging.

I constantly developed my methods to make the guests feel compelled to give me money. Often, I got about the same amount of tips that I received in salary on a really good day, I could get many times more in tips, which was really encouraging. The sad part of this work was that I had to stand for long periods in the lobby waiting. Moreover, it was a bit sad when I found that I delivered excellent service, and although it did not receive any tips, or if I miss helping a good guest for any reason.

Other fairly stimulating salary systems are based on that a fixed amount of work should be done each working day. That means, in my experience, that when a predetermined amount of work was done the workers could go home. I think, for example, postmen and trash collectors have, or have had, such arrangements. The big advantage is, of course, that the reward will direct and is so closely linked to the performance. I've only tried it in one of the functions of the prison. The task was to take out the prisoners who wished to go to the exercise yard. When everyone who wanted to go out had done it, I could go home. Which usually was after 2-3 hours, though I was paid for twelve. It was of course fun, but pretty soon I began to expect to go home after 2-3 hours. Then it felt like I was working part time with very good salary and the times I had to stay longer than 3 hours, it was like working for free.

The most common reward system is a fixed monthly salary. Among the systems with fixed monthly salary, there are in my opinion two main groups. One group consists of the pay system based on that all have the same salary and the other consists of those that are based on individual agreements⁴ between each worker and the boss. The advantage of the latter is of course that the incitement to make more efforts is stronger. On the other hand, the risk is higher to create envy among the colleagues. The risk is of course mainly among those who believe that they are less paid. In particular, those who believe that they get less, but they think they really are worth more. Even those who have more and know it may feel unfairly treated, because they think that the difference in pay is so much smaller than differences in job performance.

The latter since the difference between the lowest paid and the highest paid can be as small as a few percent, which means no more than a few hundred a month, and then maybe it is not worth the possible disagreement. If I compare the place where the individual salary system did the worst and the best, the difference was mainly the following.

At the point where the individual salary system did worst (a government authority) all had the same task, but very different background in terms of educational and experience. The new ones with high education (like me) got from the beginning a higher salary than very experienced and talented colleagues. As a freshman I was not able to produce anything (the induction before the individual production start was about a year). But after the one year introduction I could not look forward to any significant increase in salary. The pot for pay increases given to the authority was not big enough to both give everyone a little money each and also reward those who performed well. The money available for additional salary increases were instead distributed, as we understood, most on the principle to give extra to the colleagues who lagged⁴ behind and also to those who threatened to resign. Moreover, there was no clear and measurable goals for each and every once performance. There was thus no incentive to try to improve the performance, but there was an incitement for jealousy (which could be seen) and to blackmail our employer.

Where it worked best (a large private corporation) the head every year discussed with me about what he wanted me to do in order to get an additional increase in salary. And the total salary pot was not given from the beginning, which resulted in that if the others got higher wages I did not mean that I did not.

⁴. I myself have never had to really negotiate with the boss about how high raise I should get. Instead, the manager have just told met that I will get this or that much and I have interpreted it as the only possible response is "oh well" or "thank you". I think it has been so since the union entered and negotiated on my behalf without my involvement, but I'm not sure. To the limited extent I myself have negotiated as a manager, it has been the same thing but without any union involved. I've said a sum and the employee said "oh well, thank you," even if my intention was that it would be an initial negotiating proposal. I guess it could be because it is uncomfortable to negotiate for oneself about ones own effort. Moreover, I think that we might not want to give a counteroffer because it more or less means that we put our job at stake.

At the point where, in theory, the salary system worked best was at a private consulting firm. There, I created my own payroll space by the money I made for the company. In addition, the company had hidden perks consisting of that I "got" some kickback of what I made in the form of a pot of money that I could spend on buying things more or less to myself with the employer money (and they called it expenses for office supplies). In reality it was not as good as it sounded because we cost the customers so much money per hour that I hesitated to bill the customer for all the hours each mission really took. So the result was that I often worked for free.

That's not the only example of "hidden" perks. My experience is that most workplaces have something to offer besides regular salary. As cakes and coffee, free food (for example, at the hospital where we often ate the patients' food since someone "accidentally" ordered too much), or to borrow a car. Such benefits, I think, often gives more joy than a corresponding increase in salary, since they brightens the day a little. To a higher extent than a figure on a payslip.

The advantage with that all have the same salary is well evident and my experience is that at such workplaces in general salary is not discussed. Nor has it been something to think so much about. But it has still been an incitement for me to try to do my best. The incitement has been my own will to do the best and a desire to get my colleagues' appreciation. In such systems there is, in my view, more space to get the colleagues' appreciation because the factor "he must do better than us because he is paid for it" is stripped away.

Overtime

On several large jobs where I worked shift time, it has been possible to raise the salary quite a bit by taking one, or two, extra shifts per month. Since it then has been working overtime (if I worked full time), that means I got double pay for these hours, in the places where I have worked it gave about ten percent extra in salary for each additional session. And it was usually also no problem getting the extra sessions, as I wanted, the days that suited me. If the extra session occurred on a weekend, when the need often were the greatest, I also got compensation for the uncomfortable working hours, which fuelled the salary increase even further. Oddly enough, it has generally been a few of my colleagues who have used that option.

Working hours

In many of my jobs the working time have been located between Monday and Friday about 08:00 to 16:45 with an hour break and the opportunity to come up to an hour earlier or later and go during the corresponding interval. In some places, the presence have been checked with punch cards and on others not. My experience of punch cards is that it takes quite a lot of effort to keep track of a few minutes here or there, both for me and for the employer. But in the places where I have experienced that first we had punch cards which then were removed, the work ethics clearly fell. But on the other hand, probably the most important thing for the employer was often not where the staff was, but what it did. What becomes apparent in a system that does not focus on presence. One example that it works, at least for me, is that in a place where we could work how much overtime as we wanted (and get the corresponding overtime pay) without asking anyone for permission, and without that we were asked to do so. I got on the punch card time, overtime every time I sat there and talked nonsense with colleagues. When the punch cards disappeared and instead we ourselves reported the time in a computer program, I hesitated to write up overtime hours for those occasions when I certainly had been there, but not produced anything for the employer.

Shift time

The establishments, where I have worked, that have applied shift time have almost only been those where the work required staffing around the clock. It has included several hotel lobbies where the day was divided into three equally long shifts and each colleague either worked double shifts or night (23:00 to 7:00). Two shift began as a rule with an evening (15:00 to 23:00), followed by the next morning (07:00 to 15:00). The best of the two day shifts was in my opinion the evening shift, because I then had a few heads in the house that interfered in what I did and it was also time to socialize with colleagues or reading newspapers. The advantage of working the day shift was mainly that I had the night free and more colleagues to talk to. Night shifts were obviously even calmer, but when the houses were not only empty of managers, but also colleagues, there was not much to do.

But on none of the hotels where I worked night it was possible to sleep, which meant that I often felt pretty bad the next day even though I slept until the evening. In other places where I worked night (as bridge operator and prison officers), however, it has been socially acceptable to sleep for a few hours during the night. Thus I felt pretty good afterwards, after a few hours in my own bed. In the latter two jobs the working time was at first divided into three shifts. With two day shifts: 07:30 to about 14:00 and about 14:00 to 19:00, and a night shift 19:00 to 07:30 and all of us rotated between the three shifts.

When we switched to two-shift system, in the form of rotation between day (07:30 to 19:00) and night (as before) the situation all of a sudden got a lot better. This is because I did not have to do more than three sessions per week to get full-time pay (we had no time reduce for breaks). The long shifts were not an issue because we did not do much else but than to sit and lethargic, and thus it was not particularly tiring. If I worked day shift I went, as I said, home at seven o'clock and had the whole evening free. If I instead worked in the evening, I had the whole day off, and when I got on the shift I made about what people do most. I was watching TV, reading a book, hanging out with colleagues (not as bridge operator) or talked on the phone. At night, I went to bed a few hours in any empty cell while a colleague was awake, or on the bed in the tower of the bridge.

Generally I find that the less physically and mentally heavy a work is, the longer working days I can cope with. In the very least onerous of the two examples above (bridge operator) work was so easy that it happened that I did three sessions in a row, i.e. one day followed by one night followed by an additional day.

At the most physically demanding jobs that I had (shop assistant at Systembolaget, assistant nurse in a hospital and as a construction worker on a site), it had however been very heavy to work even twelve hours in a row. This maybe because I did not have the same opportunities to take small breaks, when I felt I needed it. Additionally, I began, in the latter two works, so early in the morning that I felt a certain lack of sleep throughout the day.

The most mentally heavy work I had it is to have lessons with high school students. Then I had to be on the alert all the time and I had during the entire lesson people constantly watching me. I think it would be difficult in that work to even have six class hours in a day without being exhausted.

In the office jobs I have had, however, the work was usually neither physically nor mentally hard, because I could work at my own pace and I was able to take small breaks when I wanted it. So I could certainly manage to work twelve hours or more, if needed.

Qualifications

When I read the job ads I notice often that employers are often looking for people with specific educational background and work experience. In addition, it is often regarded as beneficial to have some specific skills, such as mastering a specific computer system or similar. See for example the following two excerpts from advertisements in which they are looking for architects:

"We are looking for a creative person with a sense of realizing client requests of visions and flexibility. It is also important that you can meet the technical production conditions and government demands.

You should be used to design with CAD programs. Therefore, we assume that you have architectural degree and/or equivalent work experience. If you also have experience in villas and houses is meritorious."

"You should be an architect or have an equivalent degree from a technical university and experience in municipal planning work. We place great emphasis on your personal characteristics.

You should be able to coordinate and cooperate, be outgoing and have easy to express yourself in speech and writing. You should be able to work with computers, including word and image processing, CAD and GIS. We use Word, Photoshop, InDesign, AutoCad with POINT and ArcMap."

In the examples, it is quite clear what training that employers want the job applicants to have (architect), but the ads suggest that they do not really expect to have a fully qualified architect. In addition, a number of specific skills are desirable. My experience is that training in such specific skills is done considerably faster than graduate programs. But neither with a university program nor training in, for example, particular software makes someone, with some exceptions, ready for independent work in a profession. In the vocational courses I have attended (engineer, driver, real estate agent and researcher), I spent (except for the last training) very little time to train the professional role, though I thought I did. Which meant that where I started practicing the profession, I have in the beginning felt pretty useless.

My experience is that I have over time grown into the role of a professional and other specific skills needed in the job comes with time. My personal attributes have however been fairly constant.

In the place ads above the employers called for applicants with certain personal characteristics. The descriptions given of the properties called for are however often shoddy and/or general. Which does not give the potential applicants much guidance about whether they are suitable or not. I think that to some extent are due to those employers sometimes pointing out certain qualities, such as creativity, most to appear as an interesting place. In table 3, I have highlighted some "features" that I found have been important to bring in some jobs that I had. Characteristics that employers do not call for very often, at least not so specifically.

Table 3. Some personal characteristics that is good to bring into different jobs.

	Able to walk/stand a lot	Good in chatting	Good in waiting	Good in argumenting
Labour inspector		X		X
Shop assistant	X	X		
Construction worker	X			X
Caretaker				X
Research engineer				X
Youth leader		X		X
School teacher				X
Home care assistant	X	X		
Hotel receptionist		X	X	
Bell boy	X	X	X	
Machine designer				X
Jailhouse worker			X	
Truck driver				
Limousine driver			X	
Personal assistant		X	X	
Process controller			X	
Assistant nurse	X	X		
School caretaker			X	
Cleaner, outdoors	X			
Technical writer				X
Telephone operator		X	X	
Telephone salesman				X
Test engineer				X
Gardener	X			

Able to walk/stand much

There is a big difference on how much walking/standing one have to endure in various works. My experience is that workers are walking/standing significantly more than official. In the only official work in which I walked a lot, was as a labour inspector, it was because I took long walks from the sites I visited. In other officials work I've mostly gone to the canteen and to various meetings. In several works jobs, however, as inshops and in home care, I spent a large part of the working day standing/walking. My experience is that in the tasks normally performed sitting, walking has felt as annoying interruptions of the work. But the work normally performed walking/standing it has mostly been positive. But it does not mean that I, in some works been pretty tired in my feet at the end of the day.

Good in chatting

Some jobs are more or less about talking to other people, such as customers. Then it's a huge advantage to be good at talking about things that customers want to talk about. In other works, however, I conversated only during breaks and then mostly for social reasons. Then skills in small talk is not so important for the overall performance.

Good in waiting

Some jobs entail a large amount of anticipation. Some people do not mind it, or maybe even like it, perhaps because they find it relaxing. While others almost can't handle it. If so, maybe their impatience is evident, for example they become irritated, which is not so successful.

Good in argumenting

Many works are ultimately largely about convining others. This applies, of course, on salemen, but also in jobs involving teaching or investigations. In the latter role it is important to investigate in such a way that the results can be the basis for a decision. Which means that the investigation itself becomes a form of argumentation.

Education

It is quite common that the employer requires that the applicant must have a certain education and for some types of services (such as medical jobs), there is a legal requirement that those appointed should have certain qualifications. Although the employer and colleagues generally expects, and gladly helps to educate/demonstrate the new employees what they need to know to do the job. The reason that employers still require some training might be that:

- It somewhat proves that the applicant is interested in the subject.
- The manager and/or colleagues might themselves have the training in question and wants to preserve its status.
- A certain degree is proof that the person is energetic and intelligent enough to, at least, undergo training.
- The program provides basic skills that are important for the quality of the work performed.

When I chose training (Mechanical line at the Royal Institute of Technology= KTH, Stockholm), I thought however that it would make me a more or less complete engineer. During training, me and my classmates I were amazed about how little, of what we thought a mechanical engineer need to know, that we really were schooled in. After the training, I have been struck by how little of what I think I learned that I have come in contact with after I finished. In order to find out if my experiences to some extent resembles that of others, I asked seven companions from the same university, and six comrades who never went there, to rank a number of skills that we, in varying degrees, were trained in. Nearly all seven participating machine engineers considered (see table 4) that:

3. Quickly understand the function of an object.
6. Interpreting a machine drawing.
11. Analyze problems and the possible solutions' pros and cons.
16. Writing a technical report in English.

Are among the nine most important skills. Of this number 11 was the one that we trained most in the school. The other three, I have mainly got training in through previous or subsequent lessons and/or experiences.

Participants who are not mechanical engineers, however, showed far more agreement about what we should master (see table 5), since almost all felt following were among the nine most important:

4. Making a reasonable assessment of the functional and environmental requirements for an object.
7. The usual construction materials relevant properties.
9. Calculate the power and energy needs for a machine.
11. Analyze problems and the possible solutions' pros and cons.
12. Build basic electronic circuits.
14. Measure physical quantities such as temperature and voltage.

A comparison of the results between the groups indicates that both mechanical engineers and, in these context laymen, believe that mechanical engineers should be able to analyze problems and their solutions. Furthermore, the perception differs between the two groups regarding the perception of what a mechanical engineer should master. A possible general conclusion of this may be that there is a difference between what someone with a specific vocational training believes are core skills, compared to someone who does not have the training. In addition, perhaps there is a difference between what the training includes and what is needed in the subsequent professional role.

Table 4. What skills as a mechanical engineer should master according to seven persons⁵ who graduated at the KTH machine line.

Which of the following skills do you think a mechanical engineer in the first place should master rank the nine main (9 = most important).	included in education	Average ranking	Schoolmate number						
			1	2	3	4	5	6	7
1. With few and adequate words describe an object's nature.	no	4.14	8	3		7	3		8
2. Make a reasonable estimate of the object's size and material.	no	1.71			4		2		6
3. Quickly understand the function of the object.	no	4.86	6	8	5	6	1	1	7
4. Making a reasonable assessment of the functional and environmental requirements for an object.	depending on course selection	2.71	5	7	3				4
5. Make an accurate drawing of the object.	depending on course selection	1.57		2				8	1
6. Interpreting a machine drawing.	depending on course selection	4.86	1	6	6	5	9	5	2
7. The usual construction materials relevant properties.	yes	2.29			2	8			6
8. Selecting appropriate materials for a structure.	no	2.29		4	1		7		4
9. Calculate the power and energy for a machine.	possibly	3.00	4				4	6	7
10. Assess what are shortcomings in a design.	depending on course selection	1.57		1			3	5	2
11. Analyze problems and the possible solutions' pros and cons.	yes	6.00	9	9	8	2			9
12. Build basic electronic circuits.	yes a little	0.00							
13. Assess how a design should be made.	yes a little	1.00						4	3
14. Measure physical quantities such as temperature and voltage.	yes a little	1.71	3				9		
15. Program a computer.	yes	1.29	2			7			
16. Writing a technical report in English.	no	5.57	7	5	9	1			8
17. Selecting surface treatment for a structure.	no	0.00							
18. Operate conventional workshop machines.	no	0.43							3
19. Perform basic technical testing of a design.	no	0.00							
20. Set up and calculate integrals.	yes	0.00							

⁵. Six men and one woman (mean, min-max age: 45, 41-48 years) who after graduation worked with different types of engineering jobs such as: mechanical engineering (2 persons), verification/testing (2 persons), insurance (1 person), sales (2 persons), technical documentation (1 person).

Tabell 5. What skills as a mechanical engineer should master according to six persons⁶ that have not gone on the Royal Institute of Technology (KTH) machine line or any other technical college education.

Which of the following skills do you think a mechanical engineer In the first place should master rank the nine main (9 = most important).	included in education	Average		Non machine engineer number						
		ranking		1	2	3	4	5	6	
1. With few and adequate words to describe an object's nature.	no	0.7			4					
2. Make a reasonable estimate of the object's size and material.	no	0.7			4					
3. Quickly understand the function of the object.	no	1.8	5				1	5		
4. Making a reasonable assessment of the functional and environmental requirements for an object.	depending on course selection	5.2	9	9		3	2	8		
5. Make an accurate drawing of the object.	depending on course selection	1.3					7		1	
6. Interpreting a machine drawing.	Probably depending on course selection	2.8		3					6	8
7. The usual construction materials relevant properties.	yes	5.5	8	8		1		7	9	
8. Selecting appropriate materials for a structure.	no	2.2	2			2		2	7	
9. Calculate the power and energy for a machine.	possibly	2.8	1	2		4		4	6	
10. Assess what are shortcomings in a design.	depending on course selection	3.5		1		6	9		5	
11. Analyze problems and the possible solutions' pros and cons.	yes	6.0	7	7		7	8	3	4	
12. Build basic electronic circuits.	yes a little	4.8	6	6		8	6		3	
13. Assess how a design should be made.	yes a little	0.7					4			
14. Measure physical quantities such as temperature and voltage.	yes a little	5.7	4	5		9	5	9	2	
15. Program a computer.	yes	0.0								
16. Writing a technical report in English.	no	0.5					3			
17. Selecting surface treatment for a structure.	no	0.0								
18. Operate conventional workshop machines.	no	0.5	3							
19. Perform basic technical testing of a design.	no	0.2							1	
20. Set up and calculate integrals.	yes	0.8				5				

⁶. Three men and three women (mean, min-max age: 45, 38-49 years) with various education, professional life and family relationships.

But even if education does not always make one a better craftsman than colleagues with long professional experience, without formal training, it is, in my opinion, still worth to first learn the job at a school. This is because:

1. As with everything else the job gets more fun the more you can about it. And part of the "useless" knowledge school gives, provides details that the untrained have difficulty to achieve.
2. Life on, especially university level is fun. There is no manager who decides about life. Many times the lessons are voluntary, so if you want to you could, for example, have long soft mornings. The school comrades are, in contrast to colleagues at work, not competitors. Which means that most of them are happy to help each other. The holidays are numerous and long. It's easy to make friends because everyone is new and looking for others to talk to/hang out with. Moreover, all have in any case at least one interest in common. An interest that may not be shared by one's old friends. Universities offer's in addition many opportunities to party and do other funny things. Finally, it is probably common that the pleasant life as a student at university is encouraged by parents and relatives.
3. It is usually almost free to study at university (although the literature can be pricey), and the state provides money for food and housing. Admittedly, it is not so much the money, but it belongs to the student culture to be "poor". Once training is complete, students may have to pay back some of the money. But payment requirements are quite modest and the extra salary that training usually provides is probably by a wide margin enough to meet the repayments.
4. The goal (to graduate) is clear and it is not dependent on what others do or do not do. Unlike at work where the goals are often unclear or strange and in many cases they are totally in the hands of others (which can be very frustrating).
5. A degree is proof of an achievement to be proud of.

Stress

Stress is a physical reaction in which the body becomes 'up'. My experience is that I have been wound up, for different reasons in different jobs (see table 6). As an engineer, it was never any long queues of customers who stood and stomped. On the contrary, it was often that no one asked me for anything, or asked how it went with what I was doing, for several days. And the amount of work was rarely larger than it was possible finish old assignments as new ones came along.

What was stressful was rather the uncertainty about whether I did the right things right or not. As a store employee, however, I had no requirement to perform beyond certain basic requirements like to enter the correct amounts in the cash register and so on. However, the amount of work was often greater than what I had time for.

Table 6. Some different types of phenomena that can get me stressed and how it behaved with them in a few different jobs.

	High demands on to perform independently	Much to do (type long queues)
Labour inspector	2	1
Shop assistant	1	3
Research engineer	2	2
Youth leader	1	1
Primary school teachers	3	2
Home care assistant	1	2
Bell boy	1	1
Machine designer	2	1
Jailhouse worker	1	1
Truck driver	2	2
Personal assistant	1	1
Process controller	1	1
Assistant nurse	2	2
School caretaker	1	1
Telephone operator	1	2
Gardener	2	1

High demands on to perform independently

1 = No independent performance.

2 = Independent performance without evaluation or without time pressure.

3 = Many tasks that would be performed under time pressure and the performance was evaluated afterwards and the tasks often required that I pushed others to do their parts.

Much to do (type long queues)

1 = Long periods with nothing to do and it was accepted to, for example, read a book.

2 = I had almost always something to do, but there were no piles of work or long queues.

Which meant that I did not feel pressured to work faster and I could take quite long pauses.

3 = There was almost always more to do than I had time for.

One of the choices in the career is between working as an employee or as a self-employed. My experience is that both lay-ups have their advantages and disadvantages (table 7) and I do not even know, for myself, which I prefer.

Table 7. The role of the writer of instruction manuals as employed compared to self-employment.

What	Employed	Self-employed
Salary	The average salary was higher because it came in with the same amount regardless of whether I was busy with a mission or not.	Higher wage and sometimes higher "salary", though usually lower, because my booked time was far from 100%.
Freedom	Limited by that I must be at work between, like, 8:00 to 16:40. In addition, I had to obey the boss, follow certain work practices and participate in "unnecessary" meetings.	Very much freedom to design my own routines and dispose time as I pleased. And a sense of freedom which consisted of knowing that when the current mission was finished, "anything" could happen. But greater demands on working much at times, since I was commissioned. And a greater needs to keep customers happy.
Work-mates	Almost everyone I encountered daily was colleagues in the same situation as me.	Almost everyone I met on the job represents the client, making interaction somewhat more demanding.
Responsibility	The responsibility was limited to me to perform assigned duties in a professional manner.	Responsibility was total and it also included such things as ensuring that the records were accurate.

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