SUMMARY THE FUTURE OF PROFESSIONS

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Summary of The Future of Professions by Richard Susskind and Daniel Susskind

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Introduction

The Future of the Professions explains how 'increasingly capable systems' such as software and search engines are making many professions obsolete. Why pay for a mechanic to change your oil or fix your fuel filter when a quick google search can find you video tutorials on how to do so yourself?

What happens in AI software is able to diagnose 100 patients more quickly and accurately than a human doctor is able to diagnose one? What is the point of law students memorizing hundreds of court cases when they can look them up in an instant?

The authors assert that many professions today only exist because their knowledge has historically been obscure. You had to go to expensive colleges to have access to the information that today anyone and everyone can access for free. And because of this those professions are becoming no different than the role of the clergy prior to the reformation, i.e. artificial monopolies on information that are becoming obsolete as that information becomes monopolized.

Professionals Are Given A Monopoly Over Their Field In Exchange For Their Expertise

The defining characteristic of what constitutes a profession is that it's specialized. A specific and particular area of knowledge and skills and the professional is an expert in. Someone who knows a lot about one thing rather than a little about many things.

The authors distinguish a profession from an occupation as having 4 characteristics:

- They have specialist knowledge;
- Their admission depends on credentials;
- Their activities are regulated;
- They are bound by a common set of values.

Whether we realize it or not we are all part of a social pact in regards to professions. We agree that a professional has a monopoly in their field, for instance only a doctor can legally practice medicine, only a licensed electrician can wire your house and so on.

This pact also allows that profession to regulate who can enter into it. To become a doctor you must go to med school, you must complete a residency, as well as other credentials that are governed by the American Medical Association. In doing this we allow professionals a great deal of autonomy in controlling how the market for their skills is run. And in return we expect expertise and consistent quality. That's the exchange. The authors refer to this as the "grand bargain".

As the authors put it:

"In acknowledgement of and return for their expertise, experience, and judgement, which they are expected to apply in delivering affordable, accessible, up-to-date, reassuring, and reliable services, and on the understanding that they will curate and update their knowledge and methods, train their members, set and enforce standards for the quality of their work, and they will only admit appropriately qualified individuals into their ranks, and that they will always act honestly, in good faith, putting the interests of clients ahead of their own, we (society) place our trust in the professions in granting them a fair wage, by conferring upon them independence, autonomy, rights of self-determination and by according them respect and status".

But they assert that this might night be quite as fair an exchange as it's made out to be. That modern technology is making that model obsolete, and that perhaps many professions are trying to resist change in an effort to maintain their monopoly and the benefits that come with it.

Further, there are moral questions to consider; Who has a right to knowledge? When machines can do jobs better than humans, who should benefit from that automation? What do we do with the people made unemployable due to automation? When are specialized professions more of a hindrance than an aid?

Knowledge Is Now Easily Accessible

Professions, like all institutions, are reluctant to change. It is in the nature of an institution to place self-preservation as its foremost goal and any changes threatening that status quo are going to be resisted.

Because of this professions are often inflexible and incapable of properly evolving to fit consumer needs. The use of professional services for instance are readily accessible in a good economy, but in a situation like that of the US, wherein wages have been stagnant for 40 years, many professions are out of reach for the average consumer. When most people need their taxes done they can't afford a CPA, or a lawyer for legal advice, and so on.

But rather than embrace the fact that information on these subjects, that was once exclusively held by expensive universities, is now readily available online, many professionals are resistant. This is only going to hasten their demise rather than delay it.

This in turn leads to a breakdown of trust between consumers and these institutions. Most people see the annoyance doctors and lawyers have towards people looking things up online for what it is, a self-serving attempt to maintain a monopoly on their professional knowledge.

We are all intuitively suspicious of mechanics, knowing they often charge fees for unnecessary maintenance and non-existent problems, banking on the fact that we don't know motors well enough to realize they're lying. But increasingly this attitude is shifting towards more prestigious professions as well, and the refrain "I went to college for this" is becoming increasingly disregarded.

The authors argue that the role of traditional institutions of learning are changing, stating:

"In all of these illustrations the historical monopoly of traditional teachers, tutors and lecturers is challenged. There is less need for the 'sage on the stage' and more of a job for 'the guide on the side'...There are new roles and new disciplines, like education software designers...content curators... and data scientists."

Technology Will Lead to Automation and Innovation

An increasingly common service being offered by doctors and therapists are appointments via video call. High speed internet and high definition webcams and microphones really do beg the question about what the difference is between talking to a therapist online or in person.

Teleconferencing also allows doctors to get consults from other doctors no matter where in the world they are. Other forms of automation, especially in regards to record keeping and billing and so on, make the roles of professionals more efficient and productive by reducing the amount of menial labor needed.

Technology can also be used to make patient records, medical protocols, and so on, standardized across the industry leading to more consistent patient outcomes.

The use of technology is also causing the definition of a good doctor change. Several hundred new medical studies are published every minute, it is literally impossible for any doctor to keep up to date on medical developments. So while in the past being a good doctor meant having an extensive reserve of medical information memorized, today it means being good at looking things up. Older doctors that don't evolve with this trend will be working with outdated information.

"Half of US doctors use the app known as Epocrates, a digital drugreference resource that computerizes the task of finding out how different drugs interact. This task was once a time-consuming, often inconclusive piece of excavation from a 2,500-page drug-reference manual, known as the Physicians Desk Reference."

However this same technology is threatening these professions. The same information doctors look up can be accessed by anyone with a computer. The complexities of the tax code can be navigated by consumers using tax

software. And online education tools can be used to gain a whole variety of skills one previously had to pay someone else to perform.

Accountants Are Being Hit Hard By Tax Software

The United States tax codes are notoriously convoluted and complicated, and the US is unique among other developed nations in that here citizens have to file individual tax returns, rather than a simplified tax code in which the work is all done by the government and taken out of your paycheck.

The upside to this system is that a complex system of deductions allows for middle class families to reduce their tax burden based on any number of things such as the number of children. The downside is that it's so complex no laymen could do this all on their own.

Enter the accountant, a professional whose job it is to file your taxes for you. But even for the accountant the task is absurdly daunting, which is why software systems have been and continue to be developed to help automate and streamline this task.

However software also allows consumers to bypass the accountant altogether. Whether for filing taxes or keeping track of costs and revenues software can automate the accounting process, making the accountant entirely redundant. Software exists that can automatically alter accounts to reduce tax burden, can be kept updated on tax code changes instantly, can keep track of what states and cities are the most beneficial for companies to be based out of, and can keep real time track of how much tax a company will need to pay in the future.

It's not hard to envision a very near future in which the tax accountant no longer exists. As the authors put it:

"Increasingly capable machines, operating on their own or with nonspecialist users, will take on many of the tasks that have been the historic preserve of the professions." "This will lead eventually to a dismantling of the traditional professions".

Surprising Numbers of Professions Will Become Automated

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The authors argue that the process by which the professions will disappear will be as follows

- Services will stop being tailored to the individual and move towards more general and standardized service
- Software will undermine and bypass traditional gatekeepers of knowledge, i.e. universities, teachers, etc
- Industries will shift towards proactive strategies, i.e. predicting consumer needs rather than simply reacting to them
- More services will be offered for less money

These steps will be driven by technological innovation and the growing body of knowledge and expertise stored electronically. Access to this expertise will decrease the autonomy and monopoly currently held by professions and increasingly be held by consumers.

Society will increasingly accept and expect services previously offered by humans to be carried out by machines and computers.

The Value of Knowledge Increases as it Spreads

"In all of these illustrations the historical monopoly of traditional teachers, tutors and lecturers is challenged. There is less need for the 'sage on the stage' and more of a job for 'the guide on the side'...There are new roles and new disciplines, like education software designers...content curators... and data scientists."

In some ways education is the field most revolutionized by these changes. Information has become democratized to a degree never before possible with resources such as

- Khan Academy
- TED talks; YouTube EDU
- Universities like Princeton offering free online courses
- Automated testing and distributed grading systems
- learning analytics
- Open access resources like Wikipedia and free online access to academic journals
- Al systems that tailor and adapt curriculum to suit the needs of individual students
- Education focused online communities
- Learning management systems

Knowledge isn't a finite resource. It can't be lost by sharing it, quite the opposite. And as knowledge is shared, the experience of those it's shared with can in turn increase and alter that knowledge. Doctors that share knowledge and experience with one another will learn more as a result.

Companies like Google and Apple purposefully design the common areas of their offices to encourage interaction between employees of different departments, sharing what they're working on and what they've learned as a means of driving innovation. And knowledge can spread like a virus. When someone is given advice on how to stay healthy from a fitness instructor, they in turn can share that advice with friends, who themselves share it with others, and so on.

The internet increases the scope of this sharing process tenfold. Instead of sharing knowledge with one person, you can share it with thousands or more. A youtube video for instance can be used to share knowledge you'd otherwise give one on one, but can potentially be learned by millions.

Costs Decrease When Services Become Standardized

CAD software gives non-skilled menial workers the ability to perform tasks that previously required highly skilled specialists. This will become the standard moving forward, more and more skilled laborers will be replaced by machine and computer assisted unskilled labor.

And even beyond the workplace, consumer available design software and machines like 3D printers allow amateurs to develop complex designs that can be shared in a free and open sourced manner.

"At WikiHouse an open community of designers worked together, online, to draw up designs for a house capable of being printed and assembled with no training, and for less than £50,000 (an early version, WikiHouse 4.0, was built in London during September 2014, and assembled in eight days by eight volunteers)."

Design processes and protocols can also be distributed in this fashion via templates and tutorials, increasing the quality of products and services by standardizing it.

This in turn allows more the time of professionals to be devoted to complex tasks like keeping their knowledge and skills up to date with new developments in their field. A task that previously would simply not be possible due to the sheer scope of knowledge that is accumulated and innovations developed.

Making such knowledge publicly available online demonstrably improves and innovates it. The open source software movement has shown conclusively that when projects are shared online for free they will be innovated since they will be worked on by potentially millions of people. This will require a complete overhaul of how we view things like intellectual property. And while it eliminates many of the traditional gatekeepers of knowledge, it creates new ones. Namely those who moderate and maintain these extensive repositories and systems of information.

This must be scrutinized and we must remain vigilant, so as not to simply recreate the current monopolies of professional knowledge.

Current Professions Will Change or Disappear, But New Ones Will Be Created

With the walls and gates crumbled and knowledge readily available to all, what will the future models of learning and professions look like?

Technological advancement can't be stopped, and how that technology is used can rarely be predicted. Exponential growth in IT via Moore's Law will result in the average desktop having more processing power than the human brain by 2020. It can't be stopped. So what are we to do with this knowledge?

We must embrace these changes instead of fearing them. Insteading of fearing technology is cutting us all off from humanity we must see how it's making us more connected than ever. Professionals often erroneously believe their positions will remain intact with minimal change but ultimately they need to accept that their roles will change or be eliminated, and instead of fighting it learn to adapt and to see the possibilities this change will provide.

Their expert knowledge can be used to improve society in ways they never knew possible if it is shared. Their position and monopoly will be eliminated, yes, but if they fear this it's because they don't understand what their role in society is meant to be in the first place.

We have found consistently that each time technology automates or eliminates jobs, it also results in as many or more new and different jobs being created. If we as a society manage this change responsibly, and provide adequate help to those whose roles are eliminated, it could result in a future in which avenues we never dreamed of can be explored.

"We are on the brink of a period of fundamental and irreversible change in the way that the expertise of these specialists is made available in society". "More people signed up for Harvard's online courses in a single year than have attended the actual university in its 377 years of existence".

Final Summary

The Future of Professions at its core is about the professions, the jobs that rely heavily on specialized knowledge, and the systems and people that will replace them. The main claim is that in the future we as a society will no longer need professionals, doctors, lawyers, teachers, to work in the manner they did in the twentieth century. That machines, aided by AI and self-learning software, will be able to operate autonomously or with lowskilled laborers running them, and will take on the tasks that currently and historically have been monopolized by the professions.

It's estimated that 98% of all human knowledge is now available digitally. The access to expert, professional knowledge has been irreversibly democratized and ultimately in the future omitting knowledge and preventing it from being accessible will be seen as a grave sin. Many professional roles will be eliminated, but new roles will be created. The ease of this transition will depend on the willingness of professionals to embrace change rather than resist it in a feeble and selfish attempt to maintain their own privileged position.

The authors describe how they envision the future:

"There will be very few jobs for life, much less security, and very little predictability. There will be an emphasis instead on being able to learn, develop, and adapt rapidly as new roles and tasks arise. Different ways of communicating. Not many decades ago professionals communicated in three ways—face-to-face, in writing, and by telephone. That was it."



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