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GROUND RULES FOR THE 21ST CENTURY
Chapter 7

INITIATIVE AND INFLUENCE MOVE TO THE PERIPHERY

The assembly line was the icon of industrialization and its centralized, hierarchical organization. In the factories workers did exactly what they were told by the few who planned the production. It was a one-way process with most knowledge and decision-making concentrated at the center. For the industrial system to work it was prerequisite that everybody followed the orders from above. The worker acted as a cogwheel, fitting precisely into a machine.
Factory workers were specifically NOT supposed to be creative and independent. The assembly line was about standardized procedures and *reproduction, not improvisation*. Likewise, the educational system wasn't too concerned with creativity or project-based work. The purpose of school was to install knowledge, but going to school was just as much a socialization process of learning to fit into place in the machinery. You learned to be on time, do your homework, and to repeat after the teachers.
The vast majority could relinquish responsibility, even concerning their own welfare. The welfare state gave citizens the right to assistance and the State didn't make many demands in return. If something went wrong, society was to blame, and therefore it was up to the System to do something for its clients.

This is - somewhat caricatured - the culture we are coming from, a society with a clear division into actives and passives. It is what a large proportion of us were brought up with, and it still permeates the way we organize schools, jobs and politics. The problem is that this model no longer fits the kind of production that our welfare depends on, now and in the future. Much of the repetitive unskilled work can be handled robots, or can be outsourced to countries with cheap labor. For companies in the industrialized countries the name of the game is no longer reproduction, but to make variations, adaptations, further developments, and new combinations. We must, in short, make our living *being creative*.

It wasn't that no one was creative in the industrial age. There were brilliant people, who showed plenty of initiative and ingenuity. But it was only a minority who played that role. From most people creativity was not expected. Today it is the other way round. There aren't many jobs left in which you are not required to think independently and flexibly.

This goes for our role as consumers as well. As we have already touched on, our use of information is increasingly *an interaction* where the traditionally passive receivers can now very easily contribute to the value creation. Generally, the hierarchical structure of decision-making has been significantly flattened in the network era. Far more initiative now comes from the periphery of the system.

<u>The many meanings of "creativity"</u>
... But let us consider the concept of "creativity". Actually the word should be replaced by several expressions, each with their distinct meaning, because when we

speak of "creativity", it is often quite different concepts we are referring to. Like the word "participation", "creativity" is a word, which can be nuanced.

There is a big difference in how the concept of "creativity" was understood in the past and how we think about it today. Once, "creativity" was a somewhat elitist and exalted activity, which artistically inclined types would engage in. It was a luxury, something you could amuse yourself with in your spare time.
Today we see "creativity" as a basic, necessary skill. It has become a requirement in our daily life that we are creative.

From	To
An elitist pastime for artists	A basic, necessary skill
A hobby	An integral part of work and daily life
An option	A requirement
From scratch	Configuration, remix
Personal	Collective

From standalone to connected creativity

Pablo Picasso was an artist of the old school. Singlehandedly, he created works that were unique and moved the whole art of painting onwards. Hans Christian Andersen had the same *modus operandi*: he was - initially at least - the archetypal starving writer sitting alone in his cold attic room, scribbling on his masterpiece. They were lone geniuses.
J.K. Rowling, too, started alone and poor, but her Harry Potter stories very quickly became the basis for an entire industry of creative people working to develop all conceivable aspects of the wizard universe: computer games, movies, websites, merchandise in every size and shape ...
Or consider the music industry. A band won't be playing together for long before the need for music videos, a website, an online community, hip t-shirts, a booking agency and a choreographed stage show arises. It quickly becomes a project that involves a lot of people. You can no longer do it all myself.

The modern artist could be a DJ. With a stack of records, a hard drive full of samples, and an arsenal of effects he will mix a soundtrack that is both old and new. From a traditional point view the creative contribution of a DJ seems pretty limited: After all, he just takes a lot of parts that other "real" musicians have painstakingly recorded, and puts them together – is that supposed to be "creativity"?
Yes, it is, no doubt, but a completely different form of creativity than Picasso's. Picasso was creative *from scratch*. He started alone with an empty canvas. The DJ, however, is openly building on what others have done before him. He samples and remixes; his creation is actually a collective work.

The wheel has been invented, now we can proceed

The DJ's remixing is a type of creativity that fits perfectly to digital technology. Bits are extremely well suited for sharing, combining and building on directly. Therefore, digitization leads to a dramatic acceleration of creativity. New ideas and new creations can move at warp speed to thousands or millions of users who in turn can remix the bits and pass them on through the network.

Reading about the history of science, it is striking how many of the most fundamental discoveries passed almost unnoticed for years before they happened to be picked up by someone who could develop them further. One example was the Austrian monk Gregor Mendel, who worked for decades in the abbey gardens mapping how the properties of pea plants could be inherited and combined through generations. His records contained the key to modern genetics, but when he published his findings in 1865, it went largely unnoticed. 35 years passed before other scientists realized the importance of Mendel's work - but by then Mendel himself was long since dead.
There were good reasons why people worked alone, connections were simply fewer and slower. Today, the exchange of information can be immediate and independent of physical distances. Instant global sharing is so normal that we hardly notice how many people we exchange information and ideas with during a normal working day in front of the screen. Personally, I am an avid listener to podcasts, and to me podcasts are a shining example of the amazing access we now have to information. I can drive my car or work in the house and garden, while I listen to podcasts of the worlds best radio broadcasts and amazing speeches from conferences or lectures from the leading universities - selected from a cornucopia of offerings and downloaded for free.

The most effective method of moving the world forward is to take others' ideas and build on them. The value of sharing ideas will become ever clearer as we become more closely linked. What we are personally capable of will become harder to distinguish from the skills and ideas that we have at our disposal thanks to our connections in the network.
So far, however, we are still living in a culture that celebrates individual creativity. We do not consider the collective type of creativity quite as noble as creations generated from scratch. A dilemma that challenges our notion of creativity is whether students should have access to the Internet during their written exams. Typically this is not permitted because the purpose of the test is to clarify whether the student is knowledgeable and capable of solving his or her own problems. If the student solves a task by finding the answer online, this is considered "cheating", rather than an effective way to find a solution.
I think we will gradually change our opinion of building on each other's ideas. We will understand that even the lone artist did not live in a cultural vacuum. Picasso revolutionized the art of painting and created images of a sort that had never seen before, but in fact he was very consciously borrowing from different traditions and blending them in new ways - for example, it was with clear inspiration from traditional African masks that Picasso painted *Les Demoiselles d'Avignon*, considered the first cubist painting.
As the American professor of copyright law, Lawrence Lessig puts it: "There is no art that does not reuse." All art is remixing, more or less. Novelty emerges from the combination of old parts.

Today, when we speak of creativity as a core competence, it is not necessarily the old, independent kind of creativity that we are referring to. We must be creative, but creativity will mostly be the type of creativity that consists in creating new combinations and variations of what others have already created.

<u>Assuming responsibility</u>
Creativity is linked to a particular attitude to life: seeing yourself as co-creator and co-responsible. If you are creative, you take initiative, interfere, adapt and invent to

improve your conditions and environment.
Creativity is one of the most important skills we will need in order to thrive in the 21st century. The ability to assume responsibility and to see yourself as a co-creator will be a main determinant of whether you are on the A or B team of society in the future.
The A-team will consist of those who are proactive in exploring and engaging in creative interaction - whether it's at work, as consumers, as producers, online or in politics. The A-team will be those who do not take things for granted, but instead act to improve what they are not satisfied with.
The B-team will be those who passively receive what they are being offered, without engaging in the creation of anything new. They do what others tell them to - but in fact they are determining the outcome for themselves simply by defaulting to be passive.
The demand for creativity, initiative and contribution applies to each of us as individuals, but also very much to companies or even nation states. It is not enough to go along with the flow and staying in the background when decisions are being made. Our choices have significance, and we must realize that we are accountable for the influence we have – whether through being active or passive.

Being a team player and co-creator implies seeing yourself as co-responsible. On our way beyond industrialism, we must accustom ourselves to assume responsibility. We have to realize that our ability to affect the contexts we are part of has become much bigger, but that this in turns demands us to act and choose. The system is *interactive*, and by definition that makes it the responsibility of the participants, what they get out of the interaction.

For most of us, being responsible is a challenge that we might rather be without at times. In his book, *The Paradox of Choice*, the American sociologist Barry Schwartz gives numerous examples of how having more choices does not make people happier. It doesn't make us happier choosing between hundreds of different kinds of jam in the supermarket. In fact, you can easily end up tormenting yourself with doubts over whether it really was the right kind you chose. There were so many other tempting choices that might have been a better choice – and if they were, you can only blame it on yourself that you didn't get those. It would have been an easier and less stressful experience had there only been strawberry, blackcurrant and orange to choose from.

The German sociologist Ulrich Beck looked at the same dilemma in his book *The Risk Society*. Historically, the main threats to human were factors we had no influence over: natural disasters, bad weather, epidemics and the like. In modern society the threats are more often something manmade. There are clear advantages to being able to drive a car, build nuclear plants or to genetically modify organisms - but there are also risks associated with it and it is we who have to balance them.
Objectively, life is no more dangerous than previously, on the contrary. But because we are better capable of affecting the outcome, it worries us whether we do it right. We have to make decisions whose consequences we cannot predict with certainty. We must weigh the probabilities and risks and take the responsibility for our assessment. It's uncertain and a bit frightening – but those are the terms of a complex system.

All told, we must be more assertive and pro-active in relation to our circumstances. We will each have a bigger role to play.

Participation of the masses does not always lead to good outcomes

The increase in participation, collective decision-making and sharing of opinions all sounds very promising - as a gigantic flash of creativity and collaboration. It's a great source of hope for our civilization. The Internet is filled with examples of the *wisdom of crowds* - projects in which the sum of hundreds or thousands of small and large contributions adds up to very useful results, which in turn can be used by even more people in their continuing process of creation.

However, as we shall examine in the rest of this chapter, it is by no means certain that the participation of the many automatically leads us forward in a positive direction. The widespread participation and co-creation can lead to a diversity of ideas that cross-fertilize each other and create results that no single individual could have achieved. But the actual effect may as well be the opposite: that everyone makes the same small, easy and selfish decisions that collectively draw us into a swamp of stagnation, mediocrity or worse.

Lemmings actually exist; it is a species of small rodents that migrate in large flocks. According to myth, they are supposed to have such a strong herd instinct that the whole flock can end up throwing itself into a torrential river with no chance to survive, if the leaders of the pack start to jump in to try to get across to the other bank. It turns out that the story is only a legend, but the reason why the myth is so persistent, is probably that the situation seems familiar. It's how people sometimes behave: Like lemmings that blindly follow the herd, even if it is headed directly into the abyss.

Black holes of hysteria

We know the negative effects of mass movements from many contexts - the media provides the most obvious examples. Periodically the media is afflicted with something akin to a virus. Monica Lewinsky's affair with Bill Clinton filled all available slots and channels at the time. So did the Madeleine case, about a British couple and their daughter, who disappeared in Portugal. The media goes into overdrive over this kind of stories. All possible angles are covered - including the story of how monstrous the story is, how many resources the press invests in covering it, and how absurd it is that it blocks out everything else. It's like a black hole no one can escape. You *have* to follow it. And even just discussing how tired you are of the story contributes to its growth.

It's an important point that there is no single company or organization, which can decide that a particular story shall grab the public attention to such an extent. It is an emergent phenomenon: a feedback loop and self-reinforcing process in which many different parties bid each other into frenzy. One story leads to the next, newspaper sales and viewership increases, and this encourages more of the same.

We may find ourselves swamped in endless details of the life of the royal, or unable to escape phenomena such as Paris Hilton, celebrities who are famous for being famous. However annoying, these fads are generally quite harmless, though.

But in some cases it has grave consequences when a story develops into hysteria - the great financial crisis of 2008 is an obvious example.

In the years up to 2008 the rising house prices led to a general expectation that prices would rise even further. So people took out much larger loans than they would normally dare to, because they figured that the gains from rising prices could secure

them.
The same mechanism prevailed in the stock market. The Dow Jones stock index went from 3.700 to 14.100 in fifteen years - more than a fourfold increase. No wonder that everyone gambled on the stock exchange - if necessary for borrowed money. And afterwards, when the headlines were filled with depression and crisis, everyone obviously held back the smallest outlay or investment - thus intensifying and accelerating the downturn. Mania shifted into panic.

This type of overdrive and wild swings is not a new phenomenon. In the mid 1630s tulip mania raged in Holland. Bulbs from the most rare and beautiful tulips sold for higher and higher sums in one of the first examples of a speculative bubble, which also persuaded ordinary people to invest their savings, hoping to benefit from rising prices. Immediately before the bubble burst in 1637 a bulb from the most exquisite tulip was sold for the equivalent of the value of a stately house along Amsterdam's canals.
Behind all the stories we find the same simple mechanism: A classic, self-reinforcing feedback loop.

The easy choice displaces the hard ones
Many of the information technologies we use, have a very strong tendency to give us more of the same. If we show some interest in a topic, the system will typically try to find more examples of something similar.
Many content services have advanced recommendation engines to target their offers to the users; powerful systems based on massive amounts of data are able to suggest music, literature, or clothes that match each user's individual taste
The systems try their best to understand our individual needs. They analyze our actions and interests, and urge us to make our opinions and wishes known. But the result may paradoxically be to narrow our horizon, and that we in concert the range of options available towards the lowest common denominator.

If I'm surfing around on YouTube, it is obvious to take a look at the clips that are the most popular. Most media have the same function: which articles are most read, what songs are the most downloaded, what else did others who bought the same product that I have just ordered buy? Once something has entered the charts, there is a much greater chance that it will become even more popular because the lists of recommendations all refer to each other.
On the net this is known as the "echo chamber": Everyone does the same as those they see around them. Either because they have an expectation that others know what is best. Or to be part of a social context.

We create the homogeneity ourselves. There is no editor who determines what’s on YouTube, instead the most visible clips are chosen as the sum of the users' choices. It is a marketplace where what consumers prefer decides what makes it.
The dilemma in this is that users have a tendency to pick content that is easy to understand: the sleek, sexy, shocking, funny stuff - in short, pop. Or, as Julia Allison, a lifestyle journalist known for being known on the Internet, says: It's about LOL, boobs and kittens.
The risk is that when everyone makes the easy choices, our screens will fill with pop, while topics, which might be more acute and important, but miss the pop-factor, disappear from sight.

Smart Mobs - Mindless mobs

The general trend toward more people becoming participants and co-creators also affects the political balance of power. It is no longer only the power- and resourceful, who are able to organize quickly, efficiently and at large scale.

In his book *Smart Mobs*, Howard Rheingold, one of the most interesting thinkers on the impact of communications technology has described how phones, digital cameras and other mobile and inexpensive digital technology have changed the ways people can organize - both socially and politically. In Tibet, Myanmar, the Middle East and other troubled regions of the planet riots and crackdowns by authorities are filmed and immediately uploaded to the web. Protesters play cat and mouse with the police by using Twitter. SMS chain messages and Facebook are used to organize large demonstrations. Anyone can start up Websites and blogs as platforms for political messages, to campaign against rogue corporations or to organize protests and boycotts. It's free, instant and potentially global.

One of the strengths of this type of smart mobs is that huge numbers of people can be informed and mobilized very quickly. A latent discontent can suddenly erupt from below. One day enough is enough! The atmosphere has reached a tipping point - and all it takes is an SMS for people to come together. Arguably, this was how the "jasmine" revolution in Tunisia spread, from tweets and facebook posting about a fruit seller who put himself on fire in protest against the abuse of the authorities. In this sense it is a huge win that virtually everyone now has access to mass communications.

But smart Mobs have limitations as well. Just as there are beautiful examples of how people have managed to find each other and cooperative constructively, there are plenty of examples of what might be called "mindless mobs" - where masses of people excite each other into hatred and destruction – guided by a simple and catchy message. The worst example in recent times was the killing frenzy that gripped half of Rwanda's population in the spring of 1994, and which led to millions of Tutsis being murdered by Hutus. The Hutu-dominated radio stations played a significant role in inciting to the slaughter.

Political and social turmoil is likely to flare up much faster and to be much more comprehensive, because anyone can participate in the organization by using his mobile phone. The closer, the technology connects us, the faster it can spread ideas - for better or worse.

Compared to a traditional, democratic political process, smart mobs are harder to engage in a dialogue. The state, politicians or an unpopular company that is exposed to the rage of the masses, often do not know whom to negotiate with.

Estonia experienced an extreme case of this in May 2007. For two weeks the Internet in the small but closely networked country, suffered a massive cyber attack, what's called a denial of service attack. Around one million computers from different countries were coordinated in querying a number of key Estonian websites with the result that network traffic became overloaded and paralyzed. For two weeks, banks, newspapers, government sites, etc. were down. The many hostile computers in the attack were random machines that were harnessed by hackers and programmed to attack Estonia jointly. Such a network of hijacked machines is called a "bot network". It has never been definitively clarified who was behind it. The attack came

immediately after a conflict between the Estonian government and the large Russian minority in the country, and this strongly suggests that Russian hackers launched the attacks. But whether the Russian state was involved, or whether it was just hackers acting on their own, is not known.

So far, the attack in 2007 was the only time in which an entire country's Internet has been hit, but there are frequent reports of similar, equally mysterious attacks. Both the American, British and French authorities, for example, have complained about denial of service attack from China. Russia is often accused of launching attacks against its neighbors. The US and Israel likely cooperated to create the "Stuxnet" software, that invaded the computers at an Iranian nuclear facility and caused it centrifuges for upgrading radioactive material to self-destruct by spinning out of control.
What is striking about these attacks is that who exactly organized them tends to get lost in cyberspace. Sometimes it is even unclear whether an attack occurred, or if it was merely a technical glitch.
That warfare through the network is an extremely serious threat was underlined by the U.S. Secret Service CIA's chief executive, Leon Panetta, in a speech in the autumn of 2009. "I believe that cyber-terrorism may be a new Pearl Harbor," said Panetta, referring to how Japan's sudden attack completely surprised the Americans in 1941.

Just as quickly as smart mobs can emerge they can dissolve and disappear again. Usually in politics - or war - there are representatives who can negotiate on behalf of a movement, but in a smart mob action there is not necessarily a leader or a precise manifesto or clear demand. It is simply the sum of a lot of disparate, loosely coordinated actions.

Stock markets match this description nicely. In rapid waves of self-reinforcing hectic activity traders and speculators can bid a commodity, a company or a currency up or down. The fluctuations can have major impacts on jobs, retirement savings or a whole country's finances, but a market run is not indicative of a moral choice – the markets only act on the opportunities for profit. In their pursuit of profits the individual dealers are completely agnostic, like a flock of locusts, which eat their way from one field to another. They simply pick on the opportunities they see...

Democracy's shortcoming
As mentioned, the much more widespread participation in decision making tends to favor simple solutions that provide benefits in the short term and which do not place demands on the individual. Solutions that might be sensible, healthy, long lasting, and responsible, but are boring and uncomfortable in the short run, can very easily get lost in a downward spiral of disinterest.
This applies to selling products as well as political messages. The weaknesses of the marketplace are also democracy's weaknesses. Politicians compete for the voters' favor, just like companies try to make customers buy their goods. It is tempting to make generous election promises, using simplified arguments and to avoiding talking about issues that are troublesome to voters. There may be very serious problems, which need attention, but if solving them implies that voters become unhappy, politicians will back down because first and foremost they need to secure their reelection.

One can wonder whether democracy as a decision-making process is actually able to

handle the increasingly complex and comprehensive challenges on the global agenda of the future. The COP15 climate summit in Copenhagen in 2009 showed all too clearly the difficulties of resolving an issue like climate change:
- It is a long-term problem. The actions needed to avert climate change won't show an impact until decades later - long after the politicians who must decide to make the effort have left office.
- It is unpopular. A sufficiently strong action against CO2 emissions will requires substantial change and lead to short term losses for many.
- It's uncertain. Nobody can say exactly how serious the problem is and what the consequences of climate change will be - making it easy to question altogether.
- It's global. It requires a coordinated effort by many countries, in principle, all the192 nations on the planet. But the politicians, who must decide to commit their countries globally, are elected locally.

All in all, there are many places along the way in which the process can be derailed. In a democratic context this is a problem, because we seem to be running out of time. We face numerous challenges that require quick large-scale action and change. The longer we wait, the more extensive the problems might become - and the more resolute and totalitarian the eventual cure may end up being, by the time someone has assembled the sufficient power to dictate a solution.
It's a paradox that democracy appears to have difficulty in creating the kind of decisions and actions that can prevent us from getting into situations that are so pressing that democracy gets overridden.

The shortcomings of democracy raise the question whether there might be better alternatives?
The alternative to the decentralized decision structure is the old hierarchy, where a few on top sets the course and tells everyone else what to do – whether or not that may be against some individual's immediate interests.
There has long been a notion that the American style of democracy, almost automatically would spread everywhere the people gets the chance to introduce it. But this doesn't seem quite so inevitable these days. Many of the countries our businesses are competing against, and many of the countries we depend on for energy and commodities, are not democracies - and it seems that they will come to characterize global culture and economy much more in the future.

Would it be better if a technocratic committee with dictatorial powers ran society? Or some brilliant ruler? For those of us raised in a culture of democratic freedom and participation, it seems unacceptable to subordinate to a regime that does not have to periodically renew its mandate from the citizens.
One of Winston Churchill's many immortal quotes was about his frustration over the shortcomings of democracy: "Democracy is the worst form of government - except all the others that have been tried."

<u>Bottom-up decisions are rarely innovative</u>
The bottom-up decision-making of networks is an unrivaled way to organize that many people clearly can say "Yes", "No" or "Stop." The network is an effective way of choosing from a menu of options.
It is more doubtful, however, whether networks can be used to express a common vision and to devise solutions to complex problems. Can the menu be written bottom-

up?

Evolution is a clear example that bottom-up decision making can lead to entirely new solutions. But it is a very slow method and it requires countless trials. Evolution does not have a direction. It is a bottom-up mechanism of adapting to the current circumstances.
In the innovation jargon we might call evolution *incremental*, rather than radical. Evolution creates extremely robust and elegant designs, but it takes a long time and the results are unpredictable, compared with an intentional and directed kind of development that is driven by the desire to realize a particular vision.

If you are in a hurry, or if you wish to retain control over the direction of development, leaving everything for the network to sort out is evidently not sufficient. As we shall see in the next chapter, there is still a need for vision and leadership - but of a different type than the one we know from the steep hierarchies of the industrial age.