The realm of physical laws – discovered and undiscovered – is part of nature, too.

CHAPTER 24

Staking Claims on Field of Knowledge

"Despite being fact-filled, this article is more than 99.99% empty space."

No Trespassing on Fields of Knowledge

Humans of our era understand that matter is an expression of energy, energy is an expression of subatomic particles, and subatomic particles are an expression of natural laws. Our era is coming to understand, but is not quite there yet, that matter, energy, and the laws of physics are all part of nature. The realm of logical solutions is as much a part of nature as is planet Earth. All of it exists without the input of any human's labor or capital. And the best parts – the best locations – are extremely valuable.

Cities can expand, but there's only one downtown location at Broadway and Main. Knowledge expands but there's only one algorithm for the fastest web search. Whoever gets to own the best locations or the most useful knowledge gets the chance to rake in the most money.

Besides applying "hers" labor and capital, that owner could exclude others from the best that nature has to offer. Minus competitors, that owner can grab an extra, unearned profit. And besides keep out others – as absentee ownership is the granddaddy of all privileges – that owner can step aside and let in others to use "hers" land or idea, for a price, like a troll under the bridge permitting passage. Both that price and that extra profit are rent. Along with rent for environment and utilities, those incomes augment the worth of Earth in America.

To spur ingenuity during the dawn of the Industrial Revolution, the authors of the US Constitution included patents and copyrights. P&C, like land titles, professional licenses (e.g., medical), corporate charters, and utility franchises, also took nobody's labor or capital to create – other than the labor to lobby and the capital to make campaign contributions. As Americans spread from the East Coast across the continent, they won from the federal government land patents granting a monopoly, over a sector of land instead of over a section of harmonious possibility.

Getting a patent or copyright is like planting a flag somewhere on the realm of logical solutions. If the location is a good one, by posting that "No Trespassing" sign the claimant can exclude others and charge a rent. Since government does not charge full market value for its patents and copyrights, the amount that the government does *not* charge is also rent.

From Excluding to Depriving

Being able to exclude others from land or the realm of harmonious possibility can get out of hand. While most of us make money by doing something useful, like being a doctor, a few get paid by preventing others from doing something useful. That's anti- social.

- Centuries ago big landowners, backed by the power of the state, got bigger by enclosing common land, preventing "commoners" from using it. Only the big owners could farm or graze sheep on land that once was available to all.
- In our era, the AMA prevents a doctor from France – where the lifespan is longer than in America – from practicing medicine in America. That way, they decrease competition, swell their market share, overcharge their customers, and rake in more money.

This rent differs from that of utilities. The doctors' monopoly is not natural but artificial. While it would be impractical to have parallel sewers compete, it'd not be impractical to let all doctors compete. On the contrary, it'd be quite efficient to have more doctors competing among themselves. And with experienced nurses, too.

Owning aspects of nature differs from owning things that we do create. When you keep others from using your house or car or computer, there are plenty of other houses or cars or computers they can turn to, since people make them. But when you speculate in land, and your vacant lot keeps others from using a prime location downtown, then you hobble your local economy. Similarly, when you keep your idea to yourself and prevent others from building on it, then you hobble scientific progress.

Discovery

Before any humans discovered North America thousands of years ago – whether entering from Siberia or Scandinavia – it existed. Before anyone discovered waves of gravity, they existed. And before anyone worked out the functions of trigonometry, they existed as logical patterns, the only forms that could exist. Long before humans were able to discover them, such useful parts of nature were already available. Then each discovery underpinned the next.

Just as long voyages to explore virgin territory depended on already occupying a home base and employing logic, so did learning the ways of the physical world depend on a pre-existing base of knowledge and following reason. As Sir Isaac Newton said, "If I have seen further than others it is because I have stood on the shoulders of giants." Those shoulders belonged to thinkers like Copernicus and Bruno (who was burned at the stake). Later, if *James Clerk Maxwell had not died young, he may have discovered e=mc2* before Einstein but at least he paved the way for Albert.

Some discoveries don't pay off in money. Indians were first to populate the Americas but did not make much off real estate speculation. Teams of scientists collaborated to discover gravity waves but none became rich in the process. And neither Isaac Newton nor Gottfried Wilhelm Leibniz marketed calculus. Only those who came after profited from such discoveries, usually due to excluding others.

Our privatizing of knowledge goes back millennia. The ancient Phoenicians gave their captains the order to sink their ship before allowing a pirate or foreign nation to capture it and discover the secret that allowed Phoenicians to sail from one end of the Mediterranean to the other – only the Punic sailors knew how to caulk their ships with tar. Centuries later, other Arabs kept secret the formula for steel which made their scimitars so much more deadly than heavy iron swords.

Ownership of originality is huge in this modern America of constant progress and incessant litigation. For its part, technology has made major strides rapidly. The rather mundane doorknob is actually a rather recent invention, patented in 1878 (a year before land reformer Henry George's classic, *Progress and Poverty).*

Dibs

Although two people cannot occupy the same space at the same time, two people can utilize the same equation at the same time. My acquiring knowledge does not mean you have any less knowledge. Yet discoverers of logical solutions deserve reward. Do we moderns owe the descendants of Newton and Leibniz untold fortunes? Similar to how much we pay today's authors of code, such as the Google guys?

How far do the benefits of being first extend? Could the first crew of canoeists landing on what's now Alaska claim all North and South America? Could the crew member who was first to set foot on the beach be the one to be entitled to the Western Hemisphere? And for how long? Forever? By now, with every inhabitable corner of the planet already inhabited, nobody can claim to be first. Nobody can even claim to descend from whoever arrived first, since tribes have always wandered all over the face of the earth.

Being first confers the right to keep the discovery and exclude others from it. Even children know to be first to call "shotgun" and claim the front passenger seat. "First come, first served."

But what if two people discovered an aspect of nature at the same time? The history of science is filled with smart guys breaking through at almost identical times. Nearly simultaneously:

- Newton and Leibniz calculated calculus;
- Lavoisier and Priestly isolated oxygen;
- Darwin and Wallace theorized evolution; and
- Fritz Hasenöhrl, precursor and contemporary of Einstein, reasoned his way to a more complicated $e=mc^2$.

It's like something was in the air, that a few antenna could pick up. Should these pairs split the benefits 50/50?

The one to win a patent for the telephone, Alexander Graham Bell, walked out the door of the Patent Office as another inventor of the telephone (Elisha Gray) walked in. Should the guy a few minutes late win nothing and the guy a few minutes early win everything? What if the person who patented or copyrighted first was not the one who discovered or invented first? Snooze, you lose? Everything forever?

Paper Claim

Patents and copyrights prevent late-comers and anyone else from exploring that particular part of the physical world and deducing a similar correct answer. People accept the notion that P&C protect the little guy – the basement inventor, the unheralded author. Yet it's a star system; only a very few inventors and authors make any money from their patent, or composers from their copyright.

While patents and copyrights are justified as ways to encourage creativity, they do just the opposite. Big companies like IBM get literally thousands of patents each year, and little companies called "trolls" get bunches of patents, too. The bigs and not-so-bigs do this not to use the aspect of nature that they've staked out, but so that you can't. They're a dog in the manger, putting a roadblock in the path of progress.

With government-granted patents in hand plus one more major favor, a favored firm can preclude competition, dominate the market, and achieve near monopoly status.

- Ford for a while was untouchable thanks to patents plus gangsters purchasing getaway cars and police forces, too, to chase them;
- Johnson & Johnson is still the biggest pharmaceutical due to patents and limited liability (drugs do harm, too);
- More recently, giants Amazon, Apple, and Facebook benefited from patents and government-funded research.

At its core, a successful business has a great new idea. But a giant business at its core has that plus a stockpile of patents. Giantism cannot flourish in a truly free market. It can only come about with the helping hand of the state. Government assistance – that's where super wealthy families come from and what turns I.T. multi-millionaires into I.T. multi-billionaires.

Ironically, today's tech giants may be on their way to utility status, or even there already, and become subject to regulation. Society may legitimately wonder, with this right to exclude, does any responsibility or duty come with it? Like, you may own it, but for excluding every other person from that part of nature, do you owe them compensation for never letting them go there? Do humans have an equal right to all parts of nature?

Go into Business

A more mature strategy than shouting "dibs" in order to be first is taking turns – as harried parents try to teach their brood. For brainiacs and artists to take turns exploring the realm of logical possibility, patents and copyrights would have to expire much more quickly than now, after a couple years, not decades.

However, bowing to investor pressure, US politicians have lengthened P&C; patents were for 17 years, now it's 20. That's just the reverse of the adage, "the penalty does not fit the crime." Here, the reward does not fit the creativity.

Sometimes a discoverer can get a patent but never make a penny. Usually the gizmo is not marketable, but often the innovator gets ripped off. Almost all inventors and artists are too poor and desperate to have the leverage to negotiate a fair contract. Hence there are innumerable cases wherewhere recording artists make peanuts while record companies keep hundreds of millions from the sales, and of people, like the inventor of the windshield-wiper, fighting Ford his entire working career to win the profit he was owed (he eventually won the case, but lost his family in doing so).

Most creative types are not the best business people and need a partner. Paul Allen needed Bill Gates and Steve Wozniak needed Steve Jobs. Henry Ford nearly wrecked his company until he listened to those with business sense and stopped making every car black.

Sometimes, a discoverer can eschew the patent and make a bundle. Usually with a partner, the team take the new idea to market before anyone else, become the best known to consumers, and get a head start on any competition. They "corner the market," make a pile of money, then even more by maintaining the largest market share. All that gain would be due to their labor and capital, none of it would be due to keeping everyone else out of that particular arena. None would be rent.

Fees

For granting a patent to an unsellable invention, government charges the same amount as for a patent protecting a hot new app. For granting a title to a quarter acre in Death Valley, government charges the same amount as for a title to a corner lot in midtown Manhattan. In cases of the app and Manhattan, the gulf between filing fee and remuneration yawns like the Grand Canyon. For next to nothing, holders of patents and deeds get to exclude everyone, for a long period of time, and win this without having to compensate society.

If it were a business that issued patents, how much would they charge? They'd not charge everyone the same, but as much as the patent were worth. Pressured by such logic, the government did increase its application fees recently, but not much.

Would inventors still invent if they had to pay full value for a patent? Would writers still write? Of course. People with ideas love to see their ideas in the world. That's what drives them, not a piece of paper, not a monopoly.

Some creative types even forgo patents and profits. Look at Linux and the rest of Freeware in our current economy of code. As Jonas Salk (and later Ralph Nader) said, how can you patent the sun?

In the mid 1950s, when polio was crippling kids (earlier President FDR), Jonas Salk and Albert Sabin developed an effective vaccine at nearly the same time. Both chose not to patent their vaccines worth millions, maybe billions. By the way, outside the US, Sabin is more famous for eradicating polio than Salk. And both built on the work of the unheralded Hilary Koprowski.

While those researchers may have had feeble profit motives, some businesses with a robust profit motive declined to patent and still struck it rich. Coca-Cola is the classic. Oracle and Google, both worth multi-billion-dollars, had almost no patents until a few years ago. Then, notes law professor Dennis Crouch (private email), they won patents not to establish dominance but to solidify dominance.

Rather than hinder progress, a patent fee in line with actual market value would spur inventors and investors to form partnerships. Same with filmmakers and distributors. Nobody would sit on a good idea. Just the opposite of now when an owner of a prime site can let it lie fallow, waiting to cash in later.

Cheaper than patents for discoveries are copyrights for creations – they're free. Because creations such as stories (some say there are only three … or six … or nine basic plots) can be retold endlessly, even if copyrighted, society loses nothing. Often a creator does not want a copyright. When you hear a new joke, you have no idea who first told it. And why should a jokester not freely contribute to society?

P&C Command Dollars

It's standard practice for the government to let Google, Microsoft, Yahoo, and many other tech companies use copyrighted material without a license from the copyright holder. In 2007, the Computer and Communications Industry Association (which includes the tech giants) figured this legal evasion accounted for much of the growth of the previous decade and generated more than $4.5 trillion in annual revenue.[1] How much of that would tech companies be willing to pay as rent? A third? $1.5 trillion?

McKinsey & Company, which gets coverage in the *Wall Street Journal* (e.g., Jan 10, 2007) for tracking financial assets worldwide (totaling $140 trillion in 2005), estimates that as much as 80% of stock price is accounted for by patents and copyrights. The US stock market in 2018 is $30 trillion, so IP is $24t. Converting from price to rent puts rent at $3t.

Kevin A. Hassett and Robert J. Shapiro, who do estimates for a living, calculated a total for intellectual capital (patents, copyrights, databases, and general business methods). In 2011 it was as high as $9.2 trillion. Since that figure approaches the then-current GDP, those guys must have meant price, not annual value. Rent would've been $.92t.

In 2013, a partnership of statisticians for private business put patents at over $5.8 trillion, almost half of the then GDP. The US Patent Office also estimates how much IP – including IT workers and sales and the

1 "Fair Use Worth More to Economy Than Copyright" by Thomas Claburn at *Information Week*, 12 Sept 2007

leverage of exclusion – contributes to the economy.[2] In 2016, they figured over $6 trillion,[8] close to the $5.8t three years earlier. Since neither figure is a lump sum price but an annual flow, how much of that is rent – profit due just to exclusion? It's hard to say but $2 trillion is reasonable.

Add that $2 trillion to the $6t we reached by adding utility franchises and eco-losses to land and resources; the new total reaches $8 trillion. That's equivalent to the drop in global stock prices in January 2016, to what it would it take to wipe out the US federal deficit, and to how much builders worldwide spend in one year on putting locations to better use. Per capita of registered voters comes to $4k per month.

Eight trillion approaches half of total national income. That's bigger than either the returns to labor (mostly wages) or to capital (to lenders and investors). (With land, labor and capital are the other two factors in production.) That means the value of our output is due less to anyone's input – labor or capital – and more to nature and privilege. In other words, you spend more for what nobody created – directly and indirectly – than you pay others for their efforts.

If $8t sounds unbelievable, it's going to get worse. We've reached this height without yet figuring in two more major sources of rents: finance and taxation. Because rent is much money for doing nothing, it attracts speculators. So we go where the money is, as Willie Sutton said, with those too big to fail. Me burning up my adding machine blazes a new trail.