I. Overview: While not denying that authors and inventors have a right to get paid for what they produce, Barlow claims that in a world of digitized intellectual works, the old institutions of copyright, patent, trademark, and trade secret will have to be abandoned in favor of new methods of protection.

II. The Problem as Barlow sees it: “If our property can be infinitely reproduced and instantaneously distributed all over the planet without cost, without our knowledge, without its even leaving our possession, how can we protect it? How are we going to get paid for the work we do with our minds? And, if we can't get paid, what will assure the continued creation and distribution of such work?”

A. Intellectual Property and Information are:

1. Non-Rivalrous:
2. Non-Zero Sum:
3. Created and Discovered:

B. Copyrights and Patents protect expressions or processes not mere ideas.

1. Mental to Physical Conversion:
2. The Web, File Sharing, etc. is not about Mental to Physical Conversion

III. A Few Bad Solutions

A. Advertising: will support content but ends up corrupting it as well.

B. ASCAP and BMI Models: Barlow claims but does not argue that these models are “wildly approximate” and don’t work.

C. Strengthening Copyright and Patent systems: Arguably this is currently what is going on.

1. Barlow claims that this strategy threatens Free Speech.
2. The WWW makes theft near impossible to stop.
3. Will leads us back to the bad old days of property – might makes right!
IV. A Taxonomy of Information

A. Information is an activity.

1. Information Is a Verb, Not a Noun: “Freed of its containers, information is obviously not a thing. In fact, it is something that happens in the field of interaction between minds or objects or other pieces of information.”

2. Information Is Experienced, Not Possessed: “Even when it has been encapsulated in some static form like a book or a hard disk, information is still something that happens to you as you mentally decompress it from its storage code. But, whether it's running at gigabits per second or words per minute, the actual decoding is a process that must be performed by and upon a mind, a process that must take place in time.”

3. Information Has to Move: “Information that isn't moving ceases to exist as anything but potential . . . at least until it is allowed to move again. For this reason, the practice of information hoarding, common in bureaucracies, is an especially wrong-headed artifact of physically based value systems.”

4. Information Is Conveyed by Propagation, Not Distribution: “The central economic distinction between information and physical property is that information can be transferred without leaving the possession of the original owner. If I sell you my horse, I can't ride him after that. If I sell you what I know, we both know it.”

B. Information is a life form.

1. Information Wants to Be Free: “Stewart Brand is generally credited with this elegant statement of the obvious, which recognizes both the natural desire of secrets to be told and the fact that they might be capable of possessing something like a "desire" in the first place.

   English biologist and philosopher Richard Dawkins proposed the idea of "memes,” self-replicating patterns of information that propagate themselves across the ecologies of mind, a pattern of reproduction much like that of life forms.

   I believe they are life forms in every respect but their freedom from the carbon atom. They self-reproduce, they interact with their surroundings and adapt to them, they mutate, they persist. They evolve to fill the empty niches of their local environments, which are, in this case the surrounding belief systems and cultures of their hosts, namely, us.”

2. Information Replicates into the Cracks of Possibility: “The more universally resonant an idea or image or song , the more minds it will enter and remain within. Trying to stop the spread of a really robust piece of information is about as easy as keeping killer bees south of the border.”

3. Information Wants to Change: “If ideas and other interactive patterns of information are indeed life forms, they can be expected to evolve constantly into forms that will be more perfectly adapted to their surroundings. . . . Jazz improvisations, stand-up comedy routines, mime performances, developing monologues, and unrecorded broadcast transmissions all lack the Constitutional requirement of fixation as a "writing." Without being fixed by a point of publication the liquid works of the future will all look more like these continuously adapting and changing forms and will therefore exist beyond the reach of copyright.”

2
4. **Information Is Perishable:** “With the exception of the rare classic, most information is like farm produce. Its quality degrades rapidly both over time and in distance from the source of production.”

C. **Information is a relationship.**

1. **Meaning Has Value and Is Unique to Each Case:** “The value of what is sent depends entirely on the extent to which each individual receiver has the receptors — shared terminology, attention, interest, language, paradigm — necessary to render what is received meaningful.”

2. **Familiarity Has More Value Than Scarcity:** “With physical goods, there is a direct correlation between scarcity and value. Gold is more valuable than wheat, even though you can't eat it. While this is not always the case, the situation with information is often precisely the reverse. Most soft goods increase in value as they become more common. Familiarity is an important asset in the world of information. It may often be true that the best way to raise demand for your product is to give it away.”

3. **Exclusivity Has Value:** “The problem with a model that turns the physical scarcity/value ratio on its head is that sometimes the value of information is very much based on its scarcity. Exclusive possession of certain facts makes them more useful. If everyone knows about conditions that might drive a stock price up, the information is valueless.”

4. **Point of View and Authority Have Value:** “In a world of floating realities and contradictory maps, rewards will accrue to those commentators whose maps seem to fit their territory snugly, based on their ability to yield predictable results for those who use them.”

5. **Time Replaces Space:** “In the physical world, value depends heavily on possession or proximity in space. One owns the material that falls inside certain dimensional boundaries. The ability to act directly, exclusively, and as one wishes upon what falls inside those boundaries is the principal right of ownership. The relationship between value and scarcity is a limitation in space. . . .

   In the virtual world, proximity in time is a value determinant. An informational product is generally more valuable the closer purchaser can place themselves to the moment of its expression, a limitation in time. Many kinds of information degrade rapidly with either time or reproduction. Relevance fades as the territory they map changes. Noise is introduced and bandwidth lost with passage away from the point where the information is first produced.”

6. **The Protection of Execution:** “I think we see that execution is the best protection for those designs which become physical products. Or, as Steve Jobs once put it, "Real artists ship." The big winner is usually the one who gets to the market first (and with enough organizational force to keep the lead).”

7. **Information as Its Own Reward:** “What is less obvious is the extent to which information is acquiring intrinsic value, not as a means to acquisition but as the object to be acquired. I suppose this has always been less explicitly the case. In politics and academia, potency and information have always been closely related.”
V. Getting Paid in Cyberspace

A. “The First Wave was agriculturally based and required law to order ownership of the principal source of production, land. In the Second Wave, manufacturing became the economic mainspring, and the structure of modern law grew around the centralized institutions that needed protection for their reserves of capital, labor, and hardware. In the Third Wave we have now entered, information to a large extent replaces land, capital, and hardware, and information is most at home in a much more fluid and adaptable environment.”

B. Real-Time Performance

C. Service and Support

D. Crypto Bottling