# ARTIFICIAL INTELLIGENCE: IS IT A GOOD UNDER THE UCC OR A SERVICE UNDER THE COMMON LAW OR IS THERE A NEED FOR A NEW CATEGORY?

DAVID E. MISSIRIAN*

CONTENTS



* Assistant Professor of Law, Bentley University.

## I. INTRODUCTION: ONE OF THESE THINGS MAY NOT BE LIKE THE OTHER. WHERE DOES ARTIFICIAL INTELLIGENCE (AI) FIT IN OUR LEGAL SCHEME?

In today's society, computers are everywhere. They are embedded in just about everything we use. They are a twentieth century marvel improving functionality in almost every phase of our lives. Yet, they draw no more attention than someone eating a piece of fruit does. Like fruit, they come in many types, sizes, and flavors. We also, much like fruit, take for granted that they are all, regardless of where they come from or how they are created, good for us. We choose them based on brand loyalty or personal appeal but very few of us think about what is in them or how they were made.

What exactly is in a computer, smart watch, or Fitbit and what makes it function? At a basic level, these mechanical marvels are a combination of hardware and the accompanying software. Think of the hardware as the shell or structure of the machine and the software as the brain, which make the structure function as a cohesive unit. How this happens is a mystery to most of us who really do not care about these details. I think most people care more about if their cell phone can take a picture or send a text than they do about how it accomplishes these tasks.

This paper will ask the following questions: what is Artificial Intelligence ("AI")? Is it a good or service? Is it personal property or is it something entirely new? Where should AI fit in our legal system?

## II. HARDWARE: HISTORY AND DEVELOPMENT

Prior to 1948, computers and the software running them were unheard of. "The world's very first piece of software was run at 11:00 a.m. on June 21, 1948, at the University of Manchester in England."[1] Computer scientist Tom Kilburn and his colleague Freddie Williams created the Manchester Small-scale Machine known as "Baby."[2] This pair designed the machine to perform mathematical calculations.[3] It is the predecessor of today's modern computers.[4] Yet much more sophisticated offspring of this early machine are prevalent in everything from cell phones to refrigerators. How exactly these parts work together and as they become smaller and ubiquitous, what will these Babies turn into is the ultimate question? The current answer appears to be AI. The term AI brings to mind a host of metal pictures, from Hal of 2001 a Space Odyssey to Data of Star Trek. John McCarthy author of the article What is AI, describes AI thusly: AI "is the science and engineering of making intelligent machines, especially intelligent computer programs."[5]

### A. *Hardware's Roots*

Today's modern computers function using a blend of hardware (the mechanical bits) and software (the instructional language bits) together to process data.

---

[1] Micah Yost, *A Brief History of Software Development*, MEDIUM (Jan. 25, 2018), https://medium.com/@micahyost/a-brief-history-of-software-development-f67a6e6ddae0.
[2] *Id.*
[3] *Id.*
[4] *Id.*
[5] John McCarthy, *What is AI/Basic Questions*, PROFESSOR JOHN MCCARTHY, http://jmc.stanford.edu/artificial-intelligence/what-is-ai/index.html (last visited June 22, 2019).

> Thus a modern computer is a programmable device that can store, retrieve, and process data. The term "computer" originated as a way of describing humans (human computers) who performed numerical calculations using mechanical calculators, such as the abacus and slide rule. The term then shifted to describing a mechanical device that began replacing the human computers. Today's computers are electronic devices that accept data (input), process that data, produce output, and store (storage) the results.[6]

The hardware of a computer can do nothing without the software telling it what to do. However, prior to the computer there were machines capable of performing certain tasks. The predecessor to the electronic calculator (a small computer) was the mechanical calculator.[7] A mechanical calculator has no software to make it function. The data is inputted by a human and then the device itself uses a series of mechanical parts, (originally actuated by a person) to do the calculation. The simplest form of mechanical calculator (again operated by a human) is the abacus.[8] Variations of the abacus date back to 2400 BCE.[9]

The abacus was in use for centuries, followed by the mechanical calculator purportedly invented by Blaise Pascal, a French scientist and philosopher in 1642.[10] Pascal fittingly called his mechanical calculator Pascaline. The device could add and subtract nine-digit numbers.[11] In 1820, Frenchman Charles X. Thomas devised a machine that could add, subtract, multiply, and divide.[12] It was the first mass-produced calculator, and it became a common sight in business offices.[13]

> In 1875, American inventor Frank Stephen Baldwin received the first patent for a calculating machine. Baldwin's machine did all four basic mathematical functions and did not need to be reset after each computation, a failing of prior machines. With the need for more accurate record keeping in the business world, calculating machines began to use motors to tally larger and larger numbers and mechanisms to print out results on paper. These mechanical machines remained essentially unchanged until the mid-1960s.[14]

In the early 1900s, radios, televisions, and radar equipment entered the world of commerce. These new electronic devices used something called a Vacuum Tube in their operation.[15] In the

---

[6] *Computer*, COMPUTER HOPE (May 13, 2019), https://www.computerhope.com/jargon/c/computer.htm.
[7] *Calculator*, SCIENCE CLARIFIED, http://www.scienceclarified.com/Bi-Ca/Calculator.html (last visited June 22, 2019).
[8] *Abacus*, NEW WORLD ENCYCLOPEDIA (Jan. 20, 2019), https://www.newworldencyclopedia.org/entry/Abacus.
[9] *Id.*
[10] SCIENCE CLARIFIED, *supra* note 8.
[11] *Id.*
[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] *Vacuum Tube*, COMPUT. HOPE (Oct. 4, 2017), https://www.computerhope.com/jargon/v/vacuumtu.htm.

1950s, the transistor started to replace the vacuum tube in these devices.[16] It was not until 1959 that Jack Kilby developed the integrated chip when he worked for Texas Instruments.[17]

The advent of the integrated circuit allowed the large wheels, cogs, and levers of previous calculating devices to be replaced by circuitry that was orders of magnitude smaller and more robust.[18]

### B. *Size Matters: How Small can we Make a Machine?*

During the Second World War, an electronic computer named Colossus was built for the military.[19] Its first job, which was a complete success, was to break Germany's secret code.[20] By doing so, it saved countless lives.[21] "Colossus occupied the size of a living room, weighed [five tons], and used [eight kilowatts] of power."[22] It incorporated 2,500 valves, about 100 logic gates and 10,000 resistors connected by [seven kilometers] of wiring."[23]

After the war ended, the first general–purpose digital computer, the Electronic, Numerical Integrator and Computer (ENIAC) was built.[24] "ENIAC was enormous,"[25] and "[i]t filled a [fifty]-foot long basement room and weighed [thirty] tons."[26] Despite its enormous size, it "could execute up to 5,000 additions per second, several orders of magnitude faster than its electromechanical predecessors."[27]

The next generation of computers, called second generation computers, relied completely on transistors instead of vacuum tubes.[28] They were more reliable and took up less space, thus retaining and enhancing computational speed but with a much smaller footprint.[29]

Third Generation computers, developed from 1965-1971, replaced individual transistors with integrated circuits. These computers were cheaper to make relative to second generation computers. They were faster in terms of their computing power and smaller due to the integrated chip. They also contained memory storage and could run multiple software programs.[30]

---

[16] *Id.*
[17] *The History of the Integrated Circuit*, ANYSILICON (Mar. 27, 2017), https://anysilicon.com/history-integrated-circuit/.
[18] *Id.*
[19] Beverly Steitz, *A Brief Computer History*, BOS. UNIV. (2006), http://people.bu.edu/baws/brief%20computer%20history.html.
[20] *Codebreaking and Colossus*, I PROGRAMMER 1, 1 (Sept. 23, 2018), https://www.i-programmer.info/history/9-machines/419-colossus.html.
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] Steitz, *supra* note 20.
[25] Ron Avery, *ENIAC*, PHILA. ODDITIES, https://www.ushistory.org/oddities/eniac.htm (last visited May 24, 2004) [https://perma.cc/SW9U-YJNM].
[26] *Id.*
[27] Michael R. Swaine & Paul A. Freiberger , *ENIAC Computer*, ENCYCLOPEDIA BRITANNICA, https://www.britannica.com/technology/ENIAC (last modified Oct. 26, 2018) [https://perma.cc/8Z65-ALNB].
[28] Steitz, *supra* note 20.
[29] *See id.*; *Generations of Computer*, GEEKSFORGEEKS, https://www.geeksforgeeks.org/generations-of-computer/ (last visited June 22, 2019) [https://perma.cc/N365-4DXL].
[30] GEEKSFORGEEKS, *supra* note 30.

In 1996, Texas instruments created an integrated chip, which crammed the equivalent of twenty of 1996's PCs onto a single chip.[31]

"Today, a single microchip, no bigger than a fingernail, can do more than the aforementioned devices with 30 tons of hardware."[32] Additionally, "smartphones are faster than the mid-1980s Cray-2 Supercomputer [and] the computer on board the Orion spaceship that NASA is currently testing to go to Mars, and—perhaps most significantly—faster than the laptops most of us are carrying around."[33]

Faster, cheaper, smaller are the watchwords of today's hardware manufacturers. Intel is currently working on hardware that is 1/7500ths of the size of a human hair.[34] No longer do we have machines, which occupy rooms, we now wear them on our wrists and may soon have then so small, we lack the unaided ability to see them.

## III. SOFTWARE: DEVELOPMENT

In order to understand the complex tasks our modern-day computers perform, we need to know how they internally communicate in addition to how we communicate with them. Therefore, it is necessary to delve into what makes a computer function.

### A. *Is Software Necessary?*

Software is a set of carefully organized instructions or code written by software programmers utilizing various computer languages to instruct computers to perform given functions.[35] "Computer programming languages allow us to give instructions to a computer in a language the computer understands."[36] Importantly, "[j]ust as many human-based languages exist, there are an array of computer programming languages that programmers can use to communicate with a computer."[37] These computer languages each have their own unique set of functional characteristics.[38]

Computer languages and their appropriate uses can be broken down into two major categories: system software, which controls the basic function of the machine or computer utilizing it, and application software, which handles tasks that are more specialized or computations such as word

---

[31] Charles Arthur, *The First Computer Was as Big as a Room*, INDEP. (May 29, 1996), https://www.independent.co.uk/news/the-first-computer-was-as-big-as-a-room-now-theyre-the-size-of-a-full-stop-and-getting-even-smaller-1349636.html [https://perma.cc/UX2N-CV3T].
[32] Avery, *supra* note 26.
[33] Eric McCarty, *Your Phone Is Now More Powerful, Than Your PC.*, INSIGHTS (Aug. 9, 2018), https://insights.samsung.com/2018/08/09/your-phone-is-now-more-powerful-than-your-pc/ [https://perma.cc/KQ39-28AE].
[34] John Markoff, *Smaller, Faster, Cheaper, Over: The Future of Computer Chips*, N.Y. TIMES (Sept. 26, 2015), https://www.nytimes.com/2015/09/27/technology/smaller-faster-cheaper-over-the-future-of-computer-chips.html [https://perma.cc/2S25-LAAF].
[35] *Software*, BUSINESSDICTIONARY, http://www.businessdictionary.com/definition/software.html (last visited June 22, 2019) [https://perma.cc/W42S-9F94].
[36] *Computer Programing Languages*, COMPUT. SCI., https://www.computerscience.org/resources/computer-programming-languages/ (last visited June 22, 2019) [https://perma.cc/PF98-Z7TN].
[37] *Id.*
[38] *Id.*

processing or data processing.[39] System software, for the most part, is invisible to the user and functions in the background of today's machines.[40] Application software like Microsoft Word or Excel are visible to the User.[41] Presently, a computer is only as intelligent as the software designed by humans.

### B. *A Change in Design.*

Originally, machines functioned with the use of complex gearing.[42] In 1945, John Von Neumann, while working at the Institute for Advanced Study, posited the concept known as "shared-program technique. This technique stated that the actual computer hardware should be simple and not need to be hand-wired for each program. Instead, complex instructions should be used to control the simple hardware, allowing it to be reprogrammed much faster.[43]

This shared method led to the development of software as being distinct from hardware. Programmers now had the ability to take the complex software and rewrite it to change the functionality of the hardware or physical machine.[44] Von Neumann's idea also allowed for the creation of libraries of software code, which could be used repeatedly.[45] It is this idea of complex code controlling a simple machine that brought us to where we are today. Software like Java, developed by Sun Microsystems, became almost a universal platform for web browsers. Furthermore, programming languages like Ruby are capable of 3D modeling.[46] These languages are the blood flow of the machines they move. Today it is hard to say which is more complex, the software making the machine move or the movement of the machine in response to the instruction.

## IV. CURRENT LAWS GOVERNING HARDWARE AND SOFTWARE

The law's treatment of these new combinations of hardware and software is wide and varied. Some areas of the law such as patent and copyright fit quite nicely. Conversely, the Uniform Commercial Code ("U.C.C.") does not fit well.

---

[39] Paul Mullins, *System Software*, *in* CPSC 100: INTRODUCTION TO COMPUTING FOR LIBERAL ARTS, SLIPPERY ROCK UNIV., http://cs.sru.edu/~mullins/cpsc100book/module05_SoftwareAndAdmin/module05-00_softwareAndAdmin.html[https://perma.cc/U4SF-CZL3].
[40] *Id.*
[41] *Id.*
[42] Andrew Ferguson, *A History of Computer Programming Languages*, BROWN, https://cs.brown.edu/~adf/programming_languages.html (last visited June 22, 2019) [https://perma.cc/5HEE-GZTK].
[43] *Id.*
[44] *Id.*
[45] *Id.*
[46] COMPUT. SCI., *supra* note 37.

### A. *Federal Law: Copyright*

Computer hardware fits the traditional notion of an invention. As such, it is well suited for patent law's protections.[47] Patent law protects the inventor of computer hardware by allowing the inventor to exclude others from making or selling the invention.[48]

> The right conferred by the patent grant is, in the language of the statute and of the grant itself, the right to exclude others from making, using, offering for sale, or selling the invention in the United States or importing the invention into the United States. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention. Once a patent is issued, the patentee must enforce the patent without aid of the USPTO.[49]

This patent protection also allows the hardware inventor to license to others the right to manufacture the computer hardware.

Copyright, on the other hand, differs from patents in that "[c]opyright is a form of protection provided to the authors of 'original works of authorship' including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished."[50] "The 1976 Copyright Act generally gives the owner of copyright the exclusive right to reproduce the copyrighted work, to prepare derivative works, to distribute copies or phonorecords of the copyrighted work, to perform the copyrighted work publicly, or to display the copyrighted work publicly."[51]

The distinction between copyright and patent is that "the copyright protects the form of expression rather than the subject matter of the writing."[52] "For example, a description of a machine could be copyrighted, but this would only prevent others from copying the description," not from manufacturing the machine.[53]

### B. *A Patent's Power*

Originally, people generally believed that Intel Corporation invented the first computer chip in 1971.[54] However, in 1990, the US. Patent and Trademark Office acknowledged that the true patent holder was Gil Hyatt,[55] a computer engineer. This acknowledgement allowed Mr. Hyatt

---

[47] *General Information Concerning Patents*, U.S. PATENT AND TRADEMARK OFFICE (Oct. 2015), https://www.uspto.gov/patents-getting-started/general-information-concerning-patents#heading-2 [https://perma.cc/CWF8-VDB6].
[48] *Id.*
[49] *Id.*
[50] *Id.*
[51] *Id.*
[52] *Id.*
[53] *Id.*
[54] Dean Takahashi, *Why 80-Year-Old Inventor Gil Hyatt Says Patent Office is Waiting for Him to Die*, VENTUREBEAT (Aug. 31, 2018, 10:30 AM), https://venturebeat.com/2018/08/31/why-80-year-old-inventor-gil-hyatt-says-patent-office-is-waiting-for-him-to-die/.
[55] *Id.*

to license his invention to Philips Electronics, who paid him $150 million dollars for his rights of exclusion and royalties for seventeen years.[56]

Interestingly, software can be both patented and copyrighted.[57] In 1964, the Copyright Office began registering computer programs.[58] Software is protected under the copyright act as a literary work.[59] As with all literary works, there is an issue of similarity between one story and the next when it comes to copyrighted works. "If someone copies your code exactly, then copyright protects you."[60] Also, [i]f something is extremely similar, copyright also protects you."[61] However, how similar is similar?

In the case of *Whelan Associates Inc. v. Jaslow Dental Labs*—a case involving a software program which aided in the running of a dental laboratory—the Third Circuit Appeals Court was open to the idea that the methods of expression (i.e. the arrangement of the actual software code or language itself) might not be protected under the Copyright Act. The Court said, "Copyright protection of computer programs may extend beyond the programs' literal code to their structure, sequence, and organization".[62] Despite this nod to the possibility that two computer software programs, which used similar language but in differing arrangements might not cause a copyright infringement, they found that there was sufficient similarity in the structure and sequencing in this matter to constitute a copyright infringement.[63]

Ten years later, the Second Circuit court of Appeals decided a similar issue in the case of *Computer Associates International, Inc. (CAI) v. Altai, Inc.* ("Altai"), but came to a different conclusion. While Altai acknowledged that it had copied the CAI's code while manufacturing the Oscar 3.4, they contended, and the court agreed, that Altai changed all the similarly worded code in Oscar 3.5.[64] The Appeals Court stated that there was some copying but it did not constitute an infringement.[65] Additionally, the Appeals Court made note of the purpose of not unduly enforcing infringement claims where the subsequent software was a reconstitution of the elements of the original software.[66]

> The limited scope of the copyright holder's statutory monopoly, like the limited copyright duration required by the Constitution, reflects a balance of competing claims upon the public interest: Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts.[67]

---

[56] *Id.*
[57] *Software Patent or Copyright: Everything You Need to Know*, UPCOUNSEL, https://www.upcounsel.com/software-patent-or-copyright (last visited June 23, 2019).
[58] Diamond v. Diehr, 101 S. Ct. 1048, 1060 n.2 (1981) (Stevens, J., dissenting).
[59] UPCOUNSEL, *supra* note 58.
[60] *Id.*
[61] *Id.*
[62] Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1248 (3d Cir. 1986).
[63] *Id.*
[64] Comput. Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 703 (2d Cir. 1992).
[65] *Id.* at 715.
[66] *Id.* at 711.
[67] *Id.*

The *Altai* court balanced the rights of the individual with the rights of society and concluded that while it is important to protect the developer of the software or the computer chip, these protections are to be balanced against the benefits to society of other similar products.

### C. *The U.C.C.*

This article's purpose is whether software is a good governed by the U.C.C. or as a service governed by the common law. Hardware clearly fits the definition of a good under the U.C.C. The U.C.C. Article 2 is applicable to the Sale of Goods. Article 2-105 of the U.C.C. defines goods as "all things (including specially manufactured goods) which are movable at the time of identification to the contract for sale other than the money in which the price is to be paid."[68]

In 1998, in *Micro Data Base Systems v. Dharma Systems*, the Seventh Circuit pondered whether custom designed software should be treated as a good or a service. The case demonstrates the issues that come up when courts consider the U.C.C. in their analyses.

In *Dharma Systems*, the plaintiff was a resident of Indiana and the defendant was a resident of New Hampshire. The two states had divergent views on whether custom software was a good or a service. The only Indiana case held that custom software is a service while the only New Hampshire case holds that it is a good.[69]

Despite the prior Indiana holdings, the Seventh Circuit felt that the weight of current authority from other jurisdictions viewed custom software as a good, and therefore, covered by the UCC.[70] Thus, Indiana joined the ranks of states holding custom software to be a good under the code. The court stated, "we can think of no reason why the UCC is not suitable to govern disputes arising from the sale of custom software."[71] Since then, Indiana has further defined software's place in the U.C.C through subsequent cases. In 2003, in *Olcott Int'l & Co. v. Micro Data Base Sys., Inc.*, the court stated that Article 2 applied to contracts involving the purchase of pre-existing software modules.[72]

When it comes to software licensing, the Commonwealth of Massachusetts held that "[T]he UCC technically does not govern software licenses".[73]

In 2018, the Seventh Circuit in the case of *Pain Ctr. of SE Indiana LLC v. Origin Healthcare Sols. LLC*, made several significant pronouncements.

"Where a contract involves the purchase of a 'preexisting, standardized software,' Indiana courts treat it as a contract for the sale of goods governed by the [U.C.C.]"[74] "On the other hand, where a contract calls for the design of software to meet the buyer's specific needs, Indiana treats it as a services contract" to which the [U.C.C.] does not apply.[75]

> To determine whether the U.C.C. applies to a mixed contract for both goods and services, Indiana uses the predominant thrust test. .

---

[68] U.C.C. § 2-105(1) (AM. LAW INST. & UNIF. LAW COMM'N 2020).
[69] Micro Data Base Sys., Inc. v. Dharma Sys, Inc., 148 F.3d 649, 654 (7th Cir. 1998).
[70] *Id.*
[71] *Id.*
[72] Olcott Int'l & Co. v. Micro Data Base Sys., Inc., 793 N.E. 2d 1063, 1071 (Ind. Ct. App. 2003).
[73] i.Lan Sys., Inc. v. Netscout Serv. Level Corp., 183 F. Supp. 2d 328, 332 (D. Mass. 2002).
[74] Pain Ctr. of SE Ind. LLC v. Origin Healthcare Sols. LLC, 893 F.3d 454, 459 (7th Cir. 2018) (quoting Olcott Int'l & Co. v. Micro Data Base Sys., Inc., 793 N.E.2d 1063, 1071 (Ind. Ct. App. 2003)).
[75] *Id.*

> . . [I]ndiana courts ask whether the predominant thrust of the transaction is the performance of services with goods incidentally involved or the sale of goods with services incidentally involved.[76]

These three positions seem at first blush to settle the software issue quite nicely. They deal with pre-existing standardized software as a good. They deal with custom programming as a service, thereby outside of the purview of the UCC and they analyze mixed contracts using the predominant thrust test.

However, what about software which is specially designed to be an integral part of hardware? I am thinking here of multiple integrated circuits and accompanying imbedded software, which when acting in concert can allow the new machine to problem solve and to develop new machines, products and software combinations on its own. This is, of course, advanced AI.

## V. NEW CATEGORIES AND NEW HELPERS

Today, thanks to Intel Corporation, we have microcode.[77] Microcode is software embedded into integrated circuits. It allows the hardware to operate independently of external software. It is essentially a simple brain of intelligent hardware. Professor Jon McCarthy describes intelligence thusly: "[i]ntelligence is the computational part of the ability to achieve goals in the world."[78] "Varying kinds and degrees of intelligence occur in people, many animals and some machines."[79] Prior to this merging, only humans and animals could problem solve.

### A. *A New Medical Assistant, Named AI*

"The first documented use of a robot-assisted surgical procedure occurred in 1985 when the PUMA 560 robotic surgical arm was used in a delicate neurosurgical biopsy, a non-laparoscopic surgery."[80] "In 2000, the **da Vinci Surgery System** broke new ground by becoming the first robotic surgery system approved by the FDA for general laparoscopic surgery."[81] "This was the first time the FDA approved an all-encompassing system of surgical instruments and camera/scopic utensils."[82]

The use of the da Vinci system allows the surgeon to view the surgical area with a high-resolution camera.[83] The systems, surgical arm is extremely small and precise improving surgical accuracy and allowing for surgery in tight places.[84] In other words, the robot's vision and dexterity exceed that of the surgeon. It is the surgeon who controls the movements of the machine to be sure, but how far are we from the machine doing the surgery itself?

---

[76] *Id.* at 460 (quoting Insul-Mark Midwest, Inc. v. Modern Materials, Inc., 612 N.E.2d 550, 554 (Ind.1993)).
[77] Linley Gwennap, *P6 Microcode Can Be Patched*, MICRODESIGN RESOURCES 1, 1 (Sept. 15, 1997), https://www.ele.uva.es/~jesman/BigSeti/ftp/Cajon_Desastre/MPR/111204.pdf.
[78] MCCARTHY, *supra* note 6.
[79] *Id.*
[80] *History and the Future of Robotic Surgery*, ROBOTIC ONCOLOGY, https://www.roboticoncology.com/history-of-robotic-surgery/ (last visited Feb. 5, 2020).
[81] *Id.*
[82] *Id.*
[83] *Id.*
[84] *Id.*

What is an AI who can perform a medical procedure, to such exact specifications and speed that they eclipse the surgeon's ability who is watching or monitoring the procedure? In addition, as use of these machines become more commonplace in hospitals and other work environments would it not be reasonable for the machines to perform and analyze other situations independently?

Now consider a machine, which can perform cataract surgery, independent of a doctor's supervision, customized software (non-U.C.C.), hardware (U.C.C.) or off the shelf software (U.C.C.)? Alternatively, is this not a good or a service?

When the doctor performs the same operation with less exactitude, he is not considered a good. He is a doctor performing a service. We would never think of the doctor as a thing to be sold or as a service being performed. At what point does the tool named AI become more that the sum of its parts?

### B. *A Future Need*

If we allow future AI to be viewed as a good under the U.C.C., the code will allow manufacturers to disclaim any express warranty through their contract formation with the end user. Manufacturers could also disclaim implied warranties of merchantability by use of U.C.C. 2-316. This situation leaves consumers is an awkward position. Who is liable for the unsupervised actions of AI? Is it the hospital using the AI or the patient's attending physician? What if the hospital gave patients a choice of using either an AI surgeon or a human surgeon and, as required by law, informed the patient that AI's success rate was far superior to the human surgeon's. If people voluntarily choose AI and got injured because of it, would they sue AI using the code or common law? Moreover, if patients sued AI what could they recover?

## VI. CONCLUSION: FEDERAL INTERVENTION IS REQUIRED

I propose that Congress create a Federal U.C.C. or other statute that applies specifically to artificial intelligence. This statute would only apply when the AI either has a certain quantifiable intelligence level or ability to perform a certain degree of complex task. The statute could additionally also be tailored to only apply AI engaged in tasks which could put human life in jeopardy. This specific statute would allow each state to retain their laws regarding simple software of hardware, but allow a more uniform and guarded approach to be fashioned as to AI.

The creation of and marketing of advanced AI would affect interstate commerce. These acts are subject to the commerce clause. The current system allows for too many variations in state laws as to what complex software hardware systems are.

Soon, the Da Vinci system will be thought of as archaic technology. Think of the advances in cell phone technology in the last decade and imagine where AI will be in ten years. Do we, as a society, want our legal system to be playing catch up? Or would we be better served by having a vetted system.