COMMENTARY

OF SCIENTIFIC CLAIMS
AND PROPRIETARY RIGHTS:
LESSONS FROM
THE DEAD SEA SCROLLS CASE

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I. PREFACE

For more than eleven years, Professor Elisha Qimron engaged in deciphering fragments of the Dead Sea Scrolls. More

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than 15,000 fragments of different scrolls written in a pre-
Mishna language were found during the late 1940s and 1950s in
the Caves of Qumran in the Judean Desert.

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For about ten years, researchers with the Human Genome
Project “deciphered the hereditary script, the set of instructions
that defines the human organism.” More than three billion units
of DNA in the twenty-three pairs of chromosomes comprising the
human genome required deciphering and mapping.

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Professor John Strugnell of Harvard University was the first
researcher to engage in compiling the fragments into one scroll
and has managed to identify about one hundred fragments of the
scroll and match them according to their shapes into sixty-seven
fragments. “Professor Elisha Qimron,” a Professor of Hebrew
Language, “joined Strugnell in 1981, to complete the deciphering
of the scroll.” Of the fragments he received from Strugnell,
Qimron managed to compile a text of 121 lines . . . , 40% of
which are supplementing the lacuna that was not found in the
text on the fragments.”

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The Human Genome Project, a consortium of academic
centers supported by the National Institutes of Health, was
launched in 1990 as a projected fifteen-year effort to identify the
estimated 100,000 genes in human DNA and to determine the
sequence of the three billion bases that make up human DNA.
In May of 1998, a private company (later called Celera) joined the
race for deciphering the human genome. By the year 2000, the

1. Nicholas Wade, Reading the Book of Life: The Overview; Genetic Code of Human
2. THE INDIANA GENOMICS INITIATIVE, INDIANA UNIV., Frequently Asked Questions:
27, 2001).
3. See David Nimmer, Copyright in the Dead Sea Scrolls: Authorship and
4. C.A. 2790/93, 2811/93, Eisenman v. Qimron, 54(3) P.D. 817, at para. 1 (English
translation of the Israeli Supreme Court decision provided by Dr. Michael Birnhack, The
Dead Sea Scrolls, at http://law.haifa.ac.il/lawatch/heb/month/dead_sea.htm (last visited
Feb. 18, 2001)). This case will be referred to as either Qimron or the Dead Sea Scrolls in
the main text.
5. Qimron, 54(3) P.D. 817, at para. 1.
E1.
two rival groups each announced their own version of the human genome.  

Deciphering the scroll required “supplementing the missing parts” based on “linguistic and Halakhic knowledge.” This process involved several phases: “matching ‘islands’ of fragments and placing them in the putative place in the scroll, deciphering the written text on the fragments, to the extent that such deciphering is required and filling the gaps between the fragments.” What turned the fragments into a meaningful text was not merely the “investment of human resources, in the meaning of ‘the sweat of man’s brow.’ It was the fruit of a process in which Qimron applied his knowledge, skill, imagination, discretion, and choice among various options.”

Deciphering the human genome involved highly skilled teams of scientists working with novel techniques and state of the art technologies. The rival scientific groups applied two competing methodologies. The public consortium applied a “step-by-step sequential process in which each chromosome is marked [and divided] at intervals through its length,” each smaller section is sequenced, and finally fragments are reassembled according to the markers that were originally discovered on the DNA sequence of the chromosome. The “mapping” of the genome was by no means technical. Fragments “do not assemble cleanly from their component snippets. One reason is that human DNA is full of repetitive sequences—the same run of letters repeated over and over again—and these repetitions baffle the computer algorithms set to assemble the pieces.” The “whole genome shotgun” strategy applied by Celera involved breaking the whole genome down into a set of fragments that are analyzed separately and then assembled by a supercomputer into the reconstructed chromosomes.
relied on the output of the public project to fill the missing parts and reconstruct the chromosomes.\textsuperscript{16}

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On June 26, 2000, President Bill Clinton and Prime Minister Tony Blair declared that the human genome belongs to all.\textsuperscript{17}

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On August 30, 2000, the Israeli Supreme Court held that the researcher Qimron owns the copyright in the deciphered text.\textsuperscript{18}

II. \textsc{Introduction}

The preface was intended to be polemic.\textsuperscript{19} Comparing the human genome project with reconstruction of the Dead Sea Scrolls manifests more differences than similarities. Even though both are scientific projects, they each belong to a very different discipline, seek divergent objectives, and use distinct methodologies. The two projects are essentially similar, however, in that they seek to reveal a single truth. This fundamentally identical purpose and claim of both projects, I would argue, should affect the scope of rights rendered to scientists. The nature of scientific projects and the essence of scientific claims, as such, are central for the intellectual property analysis.

Comparing the apparently dissimilar projects demonstrates the most extremist ramifications of the \textit{Dead Sea Scrolls} decision. What is the nature of the scientific project, and what should be the role of proprietary rights in this endeavor? To what extent should a scientist be permitted to acquire proprietary rights in his or her research? The legal dispute over the

\begin{flushleft}
\textsuperscript{16} Gillis, \textit{supra} note 7. \\
\textsuperscript{17} Office of the Press Sec'y, The White House, Remarks by the President, Prime Minister Tony Blair of England (via Satellite), Dr. Francis Collins, Director of the National Human Genome Research Institute, & Dr. Craig Venter, President and Chief Scientific Officer, Celera Genomics Corporation, on the Completion of the First Survey of the Entire Human Genome Project, http://www.ornl.gov/TechResources/Human_Genome/project/clinton2.html (last modified July 21, 2000). President Clinton did emphasize, however, the traditional justifications for intellectual property rights, stating that:

\begin{quote}
I want to emphasize that biotechnology companies are absolutely essential in this endeavor. For it is they who will bring to the market the life-enhancing applications of the information from the human genome. And for that reason, this administration is committed to helping them to make the kind of long-term investments that will change the face of medicine forever.
\end{quote}

\textit{Id.} Prime Minister Blair stressed that “[w]e, all of us, share a duty to ensure that the common property of the human genome is used freely for the common good of the whole human race.” \textit{Id.} \\

\textsuperscript{18} C.A. 2790/93, 2811/93, Eisenman v. Qimron, 54(3) P.D. 817, at para. 15. \\

\textsuperscript{19} As David Nimmer suggests in his essay “[b]ecause this fact pattern falls so far afield of any reported case, it is helpful to let the mind roam free and posit other hypotheticals.” Nimmer, \textit{supra} note 3, at 7.
\end{flushleft}
feasibility of proprietary rights in the reconstruction of the ancient Dead Sea Scrolls challenges the tenets of intellectual property law such as the notions of creativity, authorship, originality, and progress. A close reading of the case further contests our beliefs regarding the boundaries between the arts and sciences, discovery and creation, and deciphering a text and translating it. It calls for examining the boundaries between proprietary rights and public domain in scholarly research. I would like to use the Dead Sea Scrolls case as an opportunity to explore these thoughts and beliefs which intrinsically shape our copyright doctrine.

Nimmer's phenomenal monograph provides an exceptional glimpse into one of the most dramatic cases ever tried in the history of copyright law. His insightful and poetic analysis of the Dead Sea Scrolls case covers its many layers. Alongside the legal analysis, Nimmer portrays the historical background, the national and ethnic tensions, the professional ambitions, the mixed motives and desires, the personas (scholars, publishers, lawyers), and the organizations and institutions who took part in this drama. This rich, in-depth description of the dispute offers an alternative narrative to the one portrayed by the Israeli Supreme Court, thus unveiling some of the underlying assumptions that shaped the Court's decision and offering some fresh insights regarding the dispute.

In this Comment I focus on what I believe is a fundamental error in the Court's legal analysis which led the Court to mistakenly extend copyright protection to a scientific achievement. I argue that the Court erred in confusing two distinct copyright standards: one is the originality test and the other is the idea/expression dichotomy. Applying the originality test to ideas unprotected by copyright law led both the District Court and the Supreme Court to uphold a scientific work as a copyrightable subject matter. I will offer some explanations for this error and discuss the ramifications of this decision to the scientific project.

A. Confusing the Idea/Expression Dichotomy with the Originality Standard

The Israeli Supreme Court's decision to hold the deciphered scroll a copyrighted subject matter was based on the following analysis. First, the Court analyzed the factual nature of the

work.\textsuperscript{21} The deciphered scroll, the Court concluded, was not mere facts, but was instead processed facts reflecting Qimron’s contribution.\textsuperscript{22} Next, the Court examined Qimron’s contribution and concluded it was not merely technical, but involved a creative skillful work.\textsuperscript{23} In finding that Qimron’s reconstruction was original, the Court held the deciphered scroll was copyrighted.\textsuperscript{24}

To be eligible for copyright protection, a work must indeed constitute an “original work of authorship.”\textsuperscript{25} The standard of originality under copyright law is very low. Unlike patent law, which requires novelty as a prerequisite for protection,\textsuperscript{26} copyright law requires only that the copyrighted subject matter originate with the author.\textsuperscript{27} A work is considered original if it was not copied from any other source and if it reflects a minimal quantum of creativity.\textsuperscript{28} Yet, to be copyrightable, a work must be more than simply original. It must also be an expression and not an idea. The originality requirement can only apply to expression and never to ideas.\textsuperscript{29}

The idea/expression dichotomy and the originality requirement serve two different purposes.\textsuperscript{30} The dichotomy seeks to safeguard against acquiring proprietary rights over building

\textsuperscript{21} See generally id.
\textsuperscript{22} Id. at para. 14.
\textsuperscript{23} Id.
\textsuperscript{24} Id.
\textsuperscript{25} There is no originality requirement in the official Hebrew translation of the 1911 Copyright Act, a British law, still effective in Israel since the time of the British Mandate. Nevertheless, the originality requirement is included in the original English legislation. Copyright Act, 1911, 1 & 2 Geo. 5, c. 46, § 1(1), reprinted in E.P. Skone JAMES ET AL., COPINGER AND SKONE JAMES ON COPYRIGHT 756–57 (12th ed. 1980) (“Copyright shall subsist . . . in every original literary[,] dramatic[,] musical[,] and artistic work . . . .”). The English legislation is the authoritative version and was therefore applied by the courts as an integral part of the governing law. See id.; see also C.A. 360/83, Strosky Ltd. v. Vitman Ice Cream Ltd., 40(3) P.D. 340, 346 (“The originality requirement was for some reason left out of the official Hebrew translation of [the Act], but it appears in section 1 of the English version of the Act, which is the effectual one.”).
\textsuperscript{27} 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.01[A], at 2-9 (2000).
\textsuperscript{29} See, e.g., Nichols v. Universal Pictures Corp., 45 F.2d 119, 122 (2d Cir. 1930) (holding that even if a plot of a play is original, in the sense that it was not copied from any other work, it is nonetheless unprotected because it is merely an abstract idea and not an expression).
\textsuperscript{30} See PAUL GOLDSTEIN, COPYRIGHT § 2.2.1.4 (Supp. 1998).
blocks of creation that should remain in the public domain. It keeps all works (and aspects of the work) which were intended to remain in the public domain outside the scope of copyright.\textsuperscript{31} The originality standard, by contrast, simply guarantees that the work is attributed to an author who contributed something of his own.\textsuperscript{32}

The idea/expression dichotomy reflects a fundamental principle of copyright law. It balances the interest in guaranteeing appropriate incentives for creation and securing free access to ideas. This dichotomy had been widely criticized for its vague and uncertain standards and boundaries which increased uncertainties in defining the boundaries of copyright law.\textsuperscript{33} Yet, for better or worse, the idea/expression dichotomy remained a gatekeeper against broad proprietary claims and against admitting information in the public domain under copyright protection.\textsuperscript{34}

Israeli law, very much like United States law, distinguishes between idea and expression. Copyright protection is thus afforded to expression rather than ideas. The recently enacted Section 7B of the Copyright Ordinance proclaims this principle and explicitly excludes from protection ideas and facts or data per se.\textsuperscript{35} The Israeli courts upheld this distinction in numerous


Why is it that copyright does not protect ideas? Some writers have echoed the justification for failing to protect facts by suggesting that ideas have their origin in the public domain. Others have implied that “mere ideas” may not be worthy of the status of private property. Some authors have suggested that ideas are not protected because of the strictures imposed on copyright by the first amendment. The task of distinguishing ideas from expression in order to explain why private ownership is inappropriate for one but desirable for the other, however, remains elusive.

\textit{Id.} (footnotes omitted); see also \textit{Goldstein, supra} note 30, § 2.2.1.4 (“The expression requirement ensures that the building blocks of creativity remain free for use by all.”); \textit{Kevin Garrett et al., Copinger and Skone James on Copyright}, para. 2-05, at 30–31 (14th ed. 1999).

\textsuperscript{32} The reasoning provided by the United States Supreme Court in \textit{Feist Publications, Inc. v. Rural Telephone Service Co.} is similarly confusing. See 499 U.S. at 347 (holding \textit{facts} to be uncopyrightable because they do not owe their origin to an author who did not create them, but who merely discovered them); \textit{Goldstein, supra} note 30, § 2.2.1.4.


\textsuperscript{34} See Yen, \textit{supra} note 33, at 400–02.

\textsuperscript{35} Copyright Ordinance § 7B (“[T]here shall be no copyright in one of the following: (1) an idea; (2) a process and a method of performance; (3) a mathematical concept; (4) a fact or a data per se; (5) news; but there shall be a copyright in the way of their
cases, holding that the appropriate balance between an individual’s proprietary rights and the public interest is embodied in the idea/expression dichotomy.\textsuperscript{36}

Israeli courts applied two apparently distinct approaches to distinguish protected expressions from unprotected ideas. One approach examines the level of abstraction based on ad hoc standards applicable to the particular circumstances at stake.\textsuperscript{37} This \textit{ad hoc approach} analyzes the level of abstraction involved in any particular context: How concrete was the actual copying? Were the copied aspects abstract or were they sufficiently detailed and specific? This approach was adopted by the Court in the \textit{Qimron} case.\textsuperscript{38}

The level of abstraction affects, of course, the scope of legal protection accorded to authors over any particular aspect of the work. Thus, a broad and more abstract definition of “idea” would accord protection to a wider range of expressions and could impose extensive restrictions on future creators.\textsuperscript{39} An alternative approach perceives the dichotomy as a metaphoric test, authorizing the court to exclude from copyright protection those aspects of the work in which proprietary rights would hinder progress. Under this \textit{policy-oriented approach}, the court would determine whether any particular aspect deserves protection, or

expression.”). This provision is very similar to Section 102(b) of the 1976 Copyright Act, which provides that copyright shall not subsist in “any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, illustrated, or embodied in such work.” 17 U.S.C § 102(b) (1994).

\textsuperscript{36} See C.A. 23/81, Hershko v. Orbuch, 42(3) P.D. 749, 759–63, 791 (stating that the appropriate balance between the individual’s right to her intellectual property and the public interest, within the existing legal framework, is found in the idea/expression distinction and its application to the circumstances of the case); see also C.A. 559/69, Almagor v. Gudik, 24(1) P.D. 825, 829 (explaining that copyright does not apply to an idea, but to the way the idea is expressed); C.A. 25/81, Goldenberg v. Bennett, 36(2) P.D. 813, 820 (finding that rights granted by copyright law do not extent to mere ideas or thoughts, but only to a way of expression; ideas are in the public’s domain); C.A. 360/83, Strosky Ltd. v. Vitman Ice Cream Ltd., 40(3) P.D. 340, 346 (“Copyright protection is not granted for an abstract idea, but for its tangible expression.”); C.A. 513/89, Interlego A/S v. Exin-Lines Bros. S.A., 48(4) P.D. 133, 152 (explaining that copyright, unlike patents, does not protect an idea, but its execution), 156–57 (stating that the limited scope of copyright protection accorded to functional products’ derives, inter alia, from the unwillingness to give the creator a monopoly over the idea: the product’s function), 157 (explaining why ideas are protected under patent law and designs patents law). This principle was also upheld under English copyright law, \textit{Designer Guild Ltd. v. Russel Williams (Textiles) Ltd.}, [2000] 1 W.L.R. 2416, 2422–423 (H.L. 2000) (appeal taken from Eng. C.A.), at 2000 WL 1720247 (HL).

\textsuperscript{37} See \textit{Hershko}, 42(3) P.D. at 759 (Levin, J.) (stating that there is no firm prior distinction between an idea and its application; the same factual circumstances could be considered an idea for one purpose and an expression for another purpose—it all depends on the level of abstraction).

\textsuperscript{38} C.A. 2790/93, 2811/93, Eisenman v. Qimron, 54(3) P.D. 817, at para. 14.

\textsuperscript{39} See C.A. 2687/92, Geva v. Walt Disney, Co., 48(1) P.D. 251, 263 (Malts, J.).
whether it should remain in the public domain based on policy considerations.\textsuperscript{40} Considerations would be based on the ramifications of holding any particular aspect protected under copyright law, and on the extent such protection would overburden future creation. Among other issues courts should examine is whether granting copyright protection would prevent alternative access to ideas.\textsuperscript{41}

This critical analysis was completely absent from the Court’s reasoning in the \textit{Qimron} case. The Court’s analysis focused on the originality standard and skipped a preliminary inquiry into the nature of the contested work: whether it is an expression or an idea.\textsuperscript{42} The reasoning provided by the Court obscures the distinctiveness of the originality and expression requirements. The Court failed to examine the nature of Qimron’s contribution, assuming that any contribution that goes beyond the physical fragments would constitute an \textit{expression}.\textsuperscript{43} This assumption was based on a distinction between the physical, tangible aspect—namely, the fragments of the scroll created 2,000 years ago and discovered in Qumran—and the deciphered text itself. While the physical aspects were considered by the Court to be “building blocks” left in the public domain, the deciphered text was held by the Court to be a compilation worthy of copyright protection if the compilation manifested sufficient originality.\textsuperscript{44}

Hence, the Court did not apply the idea/expression standard to Qimron’s contribution and turned to examine the originality of his contribution, analyzing the process of creation. In the Court’s words:

\begin{quote}
The question here is whether Qimron has [a] copyright in the deciphered text as a result of one or more of the things he did: the physical aggregating of the fragments, their arrangement, deciphering what is written on them, and supplementing the lacuna between them.\textsuperscript{45}
\end{quote}

There is no doubt that Qimron’s research contributed an added value to the rifts and that the deciphered scroll reflects a highly skilled scientific achievement. Yet, failing to examine Qimron’s contribution by the idea/expression standard led the Court to erroneously hold the reconstructed scroll copyrighted. The next

\begin{itemize}
\item 41. \textit{Id}.
\item 42. See \textit{Qimron}, 54(3) P.D. 817, at paras. 10–14.
\item 43. See \textit{id}. at para. 10.
\item 44. \textit{Id}.
\item 45. \textit{Id}.
\end{itemize}
section attempts to bridge this gap and examine the nature of Qimron’s contribution.

B. Confusing Arts & Science

If the Court had properly applied the idea/expression standard to Qimron’s contribution, it would have rendered it unprotected. To avoid disqualification under this standard, a plaintiff must show that she contributed to the building blocks something that is not in itself an unprotected idea. If the Court had properly applied the idea/expression standard to Qimron’s contribution, it would have rendered it unprotected. To avoid disqualification under this standard, a plaintiff must show that she contributed to the building blocks something that is not in itself an unprotected idea. If the Court had properly applied the idea/expression standard to Qimron’s contribution, it would have rendered it unprotected. To avoid disqualification under this standard, a plaintiff must show that she contributed to the building blocks something that is not in itself an unprotected idea.6 If the Court had properly applied the idea/expression standard to Qimron’s contribution, it would have rendered it unprotected. To avoid disqualification under this standard, a plaintiff must show that she contributed to the building blocks something that is not in itself an unprotected idea.6 Facts are building blocks that lie outside the scope of copyright protection. But so does the scientific thesis reflected in the deciphered scroll. Qimron’s contribution in reconstructing the scroll could be viewed as either a compilation of unprotected, reconstructed facts, or an unprotected, scientific thesis. In no event can the reconstructed scroll be considered an expression.

1. Facts: Translating v. Deciphering. The Court’s analysis addresses the issue of facts only partly. Facts could be unworthy of copyright protection since they often do not meet the originality standard “because facts do not owe their origin to an act of authorship.”48 Facts are discovered, not created, by the first to report them.49 The Court held the reconstruction was original on the basis of the skills and creativity invested in it, which went beyond the uncovering of facts.50 Yet, facts are unqualified for copyright protection under the idea/expression dichotomy because they are considered building blocks, “ideas” which belong in the public domain.51 A preliminary question is therefore whether Qimron’s contribution transformed the original rifts into something that is significantly different than the historical facts per se.

The ancient Hebrew version was constructed in two stages: first, putting the pieces together, and second, filling up the missing words. How should the reconstructed version of the MMT (Miktsat Ma’ase Tora—the disputed scroll) in ancient Hebrew be treated? Was the scroll translated? Was it deciphered? Is there any distinction between the two endeavors?

47. Id. at 344.
48. Id. at 347.
49. Id.
I suggest that these two are significantly different and should not be confused.

A translation is considered a creative work covered by copyright under most jurisdictions. To translate is to turn a work from one language into another, to express its essence in another language, to express it in terms of something else, or by a different medium. The process of rendering from one representational system into another is certainly creative. It involves the re-creation of a work in another language that assumes a different conceptual baseline. Therefore, the output of such a process is an artifact worthy of protection. It is a stand-alone work inviting a reader to interact with it and create its meaning through discourse. Like any other artistic work, a translation can only be judged by aesthetic criteria. It can never be true or false. It can only be good or bad.

Qimron, however, did not translate the scroll but instead deciphered it. He converted the ruined script into an intelligible text. The purpose of Qimron’s project was to discover and ascertain the original ancient text as it was.
A translation is never identical to the original work, although it is a derivative work based on the original. It claims nothing more than the particular reading of the text by a single translator. Deciphered text, by contrast, reflects a claim. It claims that it is identical to the original text. In deciphering a text, one seeks to produce an identical copy of the original. It claims it is an authentic representation of the original. It tells us what the original work is. Deciphered text cannot be good or bad. It is either true or wrong.

2. Thesis: Confusing Arts and Science. The laborious work invested by Qimron in reconstructing the scroll was indeed creative, reflecting scholarly analysis, discretion, and choices. But so was the work of the scientists who engaged in mapping the human genome, and so was the work of Albert Einstein and Sigmund Freud who were never accorded any copyrights in their groundbreaking theses. Creativity cannot distinguish expression from unprotected ideas.

The reconstruction of the scroll cannot constitute an expression worthy of copyright protection because it reflects a scientific thesis. It manifests a scientific claim. The Court pointed out several scholarly controversies regarding the appropriate reconstruction, concluding that the reconstruction involved discretion and choice, thus constituting an original contribution. Adopting the findings of the District Court in their entirety, the Court held:

“There was no way to reach a single reconstruction, since the manner of reconstruction and filling the gaps depend on the results of the research. These, for the most, are not identical, for there is a dispute among scholars. As an example for this difference, plaintiff has brought two disputed [sic] between himself and Strugnell:

1. Strugnell thought that in some fragments the sentences are of 9 lines, and their arrangement is thus vertical. The plaintiff, after a study, has concluded that in the relevant portion, the sentence is of 18 lines, and thus it should be arranged horizontally. Of course, the difference in the arrangement influenced the content of the scroll.

58. Thomas F. Cotter, Pragmatism, Economics and the Droit Moral, 76 N.C. L. Rev. 1, 9 n.31 (1997) ("[T]ranslations do not infringe because they are not 'the same speech of the author, even though the thoughts are likely to be the same.")") (quoting Immanuel Kant, Von der Unrechtmässigkeit des Büchernachdrucks, in 4 IMMANUEL KANTS WERKE 221–22 (Artur Buchenau & Ernst Cassirer eds., 1922)).

2. Another fragment was compiled from 6 tiny fragments, and plaintiff explained that this way of arranging them is entirely a speculation. It depended on whether to add a missing letter [Alef] with an “O” as Strugnell thought, so the word would read “Orot”\(^60\), or with the letter “O” [Eine], so the word is read “O’ROT”\(^61\). After a Halakhic study of the purification of skins in those days, plaintiff has concluded that it is “O’ROT”. He compiled the portion based on this assumption, and of course the content was completely different from the content that would have been found had the fragments been compiled based on the assumption that the word was “orot”.\(^62\)

While the Court acknowledged the scientific nature of Qimron’s contribution, it failed to draw the inevitable conclusions. Qimron’s reconstruction provided a scientific explanation on how the fragments were matched based upon certain scientific laws and prior research in his field.\(^63\) The choices made by the plaintiff in locating fragments horizontally rather than vertically, or preferring one spelling to another, were based on scientific criteria\(^64\) and should be treated as such.

Scientific claims are significantly different from creative works which are the subject matter of copyright law.\(^65\) Both reflect an inquiry of the world, a study of its physical objects and processes, as well as historical and archeological facts. Yet, while scientific research seeks to establish some sort of coherent understanding of the world, the arts do not involve such a quest for a single reservoir of knowledge. Quite the contrary, artistic works reflect individual interpretations, understandings, meanings, and values. Naturally, there could also be competing theses, but the scientific discourse pursues a single truth. I do

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\(^{60}\) The word spelled this way means lights in Hebrew. *Id.* at para. 14 n.33.

\(^{61}\) Spelled this way, the word means skins of animals. *Id.* at para. 14 n.34.

\(^{62}\) *Id.* at para. 14 (citing the opinion of the district court).

\(^{63}\) JOHN SEARLE, MINDS, BRAINS AND SCIENCE 71 (1984). Searle states: According to the standard theory of scientific explanation, explaining a phenomenon consists in showing how its occurrence follows from certain scientific laws. These laws are universal generalizations about how things happen. . . . On this account explanation and prediction are perfectly symmetrical. You predict by deducing what will happen; you explain by deducing what has happened.

*Id.*

\(^{64}\) Qimron, 54(3) P.D. 817, at para. 14 (recognizing that Qimron’s placement of the fragments was based on physical compatibility and deciphering of the text).

not mean to claim here that there is an absolute truth that is discoverable, but only that science is heading towards such discovery.66

Creative works such as those covered by copyright law treat facts differently. Artifacts are interpretations, a claim regarding an individual view, conception, or reading of reality. One cannot think of a more reliable source to define art than great artists themselves. In the introduction to Annaluise and Anton, Erich Kästner writes:

The story I am going to tell you this time is a very remarkable story. In the first place, because it is so, and in the second place, it really happened. It was in the newspaper about six months ago. “Aha,” you think, and wag your head; “Aha, Kästner has pinched this story from a newspaper.” Oh, no he hasn’t!

The story in the newspaper was hardly twenty lines long. It was such a little paragraph that only a very few people could have read it: just reporting that on such and such a date such and such things had happened in Berlin. I fetched a pair of scissors, cut out the paragraph and put it carefully away in my curiosity box. . . . The few grown-up people who may have read the paragraph certainly thought nothing of it. It might have been made of wood; as far as they were concerned. How of wood?—you ask. This is what I mean:

When a little boy pulls a bit of wood from under the stove, and says “Hoo!” to it, the bit of wood becomes a horse, a real live horse. And if the big brother shakes his head as he looks at the bit of wood, and says to the little boy: “That isn’t a horse, but you are a donkey,” that doesn’t make the slightest difference. It was just like that with my paragraph in the newspaper. The other people thought it was just a paragraph twenty lines long. But I whispered “Hokus-Pokus!” and it turned into a story.67

Qimron performed no “Hokus Pokus.” Nor did he claim his reconstruction was a possible interpretation of the scrolls or a plausible text that could have been written by the original writer. Qimron is a scientist, and his claim was scientific. This difference between scientific output and creative expression is significant for the proprietary rights analysis to which I now turn.

66. This by no means an assertion that scientific research can actually discover the truth. It is neither a positivist claim, nor is it an anti-positivist move. It focuses on the scientific pursuit—what it claims and how it is developed.

67. ERICH KÄSTNER, ANNALUISE AND ANTON, A STORY FOR CHILDREN (Eric Sutton trans., 1933).
C. Making a Commodity of Scholarly Research

To what extent is it justifiable to afford ownership in research results? The defendants claimed that there should be no copyright in the deciphered text based on legal policy. The defendants raised a concern that holding Qimron the copyright owner of the reconstructed scroll would accord him a monopoly in a document of historical value and might deter others from “examining and criticizing” the reconstructed text. This, the defendants argued, would impair academic freedom and the study of the scrolls would suffer. The Court rejected this claim based on the following reasons.

First, since no copyright was granted in the physical rifts, nothing prevents scholars from rearranging them, filling the gaps between them, and deciphering the text independently. Any such reconstruction would also be potentially copyrightable. Second, the Court held that the “exceptions embedded in the law, [such as fair use] are sufficient to assure the freedom of academic research, despite Qimron’s copyright in the deciphered scroll.”

Indeed, copyright law seeks to prevent the creation of monopolies that would hinder further study. It does so by various doctrines such as the idea/expression standard discussed above and the fair use defense. On the one hand, the Court relied on these doctrines to affirm that copyright doctrine provides sufficient safeguards against inefficient propertization of academic research. On the other hand, the Court in the Qimron case failed to apply these doctrines to secure academic freedom. One can think of no better circumstances to apply the fair use exception than those present in the Qimron case. Following a long-lasting physical monopoly over the rifts, during which access was denied to the academic community, the Court’s decision afforded Qimron an additional copyright-based

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68. Qimron, 54(3) P.D. 817, at para. 15.
69. Id.
70. Id.
71. Id. (calling such arguments as “rather empty”).
72. Id. (noting that copyright protection of Qimron’s translation does not apply to the social fragments themselves, which other scientists may continue to study freely).
73. Id.
74. Id.
75. Feist Publ’ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349–50 (1991) (emphasizing the “primary objective” of copyright law to promote progress in both the sciences and the arts, and recognizing that such a goal prohibits any monopoly of ideas or facts).
76. Qimron, 54(3) P.D. 817, at para. 15.
77. For a detailed discussion of the impact of the Dead Sea Scrolls decision on academia, see Nimmer, supra note 3, at 73–75.
monopoly of life-plus-seventy-years protection over the reconstructed scroll. Furthermore, the Court drew the line between idea and expression at the physical boundaries of the fragments, and thus it failed to recognize the monopoly granted to Qimron over his scientific thesis. The thesis reflected in the reconstruction could not be described differently. If we take Qimron’s research seriously, there is no other way of deciphering the scroll and referring to its content other than using the deciphered text prepared by Qimron. Any researchers who would decipher the fragments in a similar way (which is likely to happen since it is the outcome of scientific research) would risk copyright liability.

Scientific research relies upon exchange. Scientific knowledge is accumulated and developed in what Thomas Kuhn refers to as normal science, where “research [is] firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice.”

Scientific theses evolve through interplay with prior research, discoveries, and theoretical steps achieved by earlier generations in various disciplines. The use of previous theses, for either ratifying a theory or rejecting it, is an integral component of scientific methodology. Acceptance by the scientific community is a source of legitimacy for scientific claims. In this

78. Qimron, 54(3) P.D. 817, at para. 14 (concluding that the creation of text to fill the gaps in the fragments was a different level of originality and creativity from the deciphering).
79. Even if one believes that the deciphered text is not a thesis, but only reflects a thesis, it would be unprotectable by copyright law under the merger doctrine. That is because there is no other way of expressing that same thesis without using the contested expression (the deciphered text). Ets-Hokin v. Skyy Spirits, Inc., 225 F.3d 1068, 1082 (9th Cir. 2000) (“Under the merger doctrine, courts will not protect a copyrighted work from infringement if the idea underlying the copyrighted work can be expressed in only one way, lest there be a monopoly on the underlying idea.”).
80. Indeed, copyright law covers only unauthorized copying and does not apply to independent creation. Yet, for the plaintiff to succeed, it would be sufficient to show only access and substantial similarity to the deciphered scroll, both of which are easy to establish in such case.
81. Thomas S. Kuhn, The Structure of Scientific Revolutions 10 (2d ed. enlarged, 1970). Kuhn represents the forefront of the opposition to neo-positivism. He distinguishes between two phases in scientific activity: “normal science” and “revolutionary rupture.” During the normal phase, scientific research consists of accumulating facts organized by a theoretical paradigm which enjoys a consensus within the scientific community. When the paradigm cracks, normal science turns into revolutionary rupture, and the theoretical assumptions of the paradigm are challenged. Science is therefore characterized by discontinuity.
82. Herbert L. Seoiple, Logic and Scientific Methods 161 (1948).
83. In this sense, arts and science are arguably similar, for artistic value is also measured within an artist's community.
sense, the scientific project is fundamentally communal and
interactive, even though it would often be executed by
individuals and competing teams. This is made possible by
keeping theses beyond the scope of proprietary rights.

Securing the ability of scientists to refer to their colleagues’
theses is, therefore, essential for the livelihood of scientific
research. Scientific claims are measured by their validity. To be
considered scientific, a thesis should be based on scientific
methodology and found admissible by the scientific community
based upon its then-acceptable scientific measures. Furthermore, the purpose of the scientific project is to reveal a
single truth about the phenomena studied. Therefore, theses
should be freely available and subject to minimal restrictions so
that they may be sufficiently tested, challenged, discussed,
accepted, or rejected.

Discourse is also essential for the realm of creativity and is
very much alive in the artistic world. Artists often refer to one
another, rely on each other’s images and symbolic references, or
seek to subvert dominant meanings. Yet such semiotic discourse
over meaning is pluralistic. It does not seek to unveil a single
truth. While the scientific project studies the world, the artistic
project reflects on it.

Consequently, the law has tailored different types of
proprietary rights for these different types of human enterprises.
While copyright protection subsists in any creative work of
authorship for a long period of life plus seventy years, inventions,
theses, and discoveries are protected only if they are patentable
under patent law.

Patentability would require not merely novelty and non-
obviousness, but also utility; only the functional application of a
great invention (as opposed to mere thesis) would be patentable,

84. See id. at 157.
85. See id.
86. Arts and sciences could be seen as much closer than described above, sharing
some fundamental features. What makes a claim scientific is that it has been established
by an acceptable methodology and can be either accepted or rejected by all that abide by
that methodology. See id. at 161. What is art? That would also depend upon recognition
by the art community and society’s “authorized” art institutions. In this sense, both the
scientific project and the artistic project depend upon a notion of communicability and
communal acceptance. For further discussion of the resemblance and contrast between
arts and sciences, see Martin Johnson, Art and Scientific Thought, Historical
Studies towards a Modern Revision of Their Antagonism 26–34 (1949).
patentability).
and if properly registered, would be protected to their owners for a shorter period of twenty years.\textsuperscript{89}

III. CONCLUSION

“[H]ard cases make bad law.”\textsuperscript{90} The Supreme Court in \textit{Qimron} sought to limit its ruling to the idiosyncratic circumstances of the case.\textsuperscript{91} This hardly ever happens. Judicial decisions, like literary works, have a life of their own. Beyond their precedential force, they also shape concepts and beliefs, and affect the common ground on which we establish our legal analysis and, very often, our ethical thought.

The blurred distinction between the originality and the idea/expression standards is likely to affect future cases by broadening the scope of proprietary rights over public domain.

What lessons should we draw from the \textit{Qimron} case? Analyzing the case and its exceptional circumstances may highlight the difficulties in drawing the boundaries between proprietary and public domain in the context of scientific research and the risks involved in using the law to restrict access to scientific information.

Deciphering the human genome was not the end of genomic research; it was only the beginning of the end. Genetic information is essential to diagnostic methods and gene therapies. Similarly, deciphering the scroll should have opened the door for historical, archeological, theological, and linguistic research. Critics of recent patent claims in research output of the human genome project are concerned that such claims would create an impediment to the future of genomic research. The legal monopoly granted by the Court in \textit{Qimron} raises similar concerns regarding the viability of future research.

\textsuperscript{89} CHOATE ET AL., \textit{supra} note 87, at 583.

\textsuperscript{90} Northern Sec. Co. v. United States, 193 U.S. 197, 400 (1904) (Holmes, J., concurring).

\textsuperscript{91} C.A. 2790/93, 2811/93, Eisenman v. Qimron, 54(3) P.D. 817, at para. 14.