

### Copyright, Hyperlinks & Networked Information Resources - Changing the Contours of Intellectual Property Law<sup>1</sup>

Tamir Maltz won the 1996 CAMLA Essay Prize with this analysis of the copyright issues arising from the use of hyperlinks on the World Wide Web.

#### I. Introduction.

he "Third Wave"<sup>1</sup> that is washing over civilisation - the information revolution - is a sum of many wavelets. One of these wavelets is composed of hypermedia<sup>2</sup> and networked information resources, presently popularised by the World Wide Web ("the Web") environment on the internet<sup>3</sup>. The unique forms of accessibility of digital resources on such information systems have generated interesting legal, policy, and technological issues.

#### II. Modern Hypermedia Implementations.

The ability to link one document to another is not new. Footnotes, and their equivalents, have been around for centuries<sup>4</sup>. The novel issues discussed in this essay are a result of recent developments - electronic, digital, and networked information resources particularly when implemented as hypermedia systems.

It is important to realise that there are many possible ways of implementing hypermedia using communications networks and software. The original, and most complete, design of a hypermedia system was pioneered, over 25 years ago, by Ted Nelson in what is known as project Xanadu<sup>5</sup>. While project Xanadu is the original implementation, the Web environment is the most popular. It is

Communication Law Bulletin, Vol 16, No. 1

assumed that readers are familiar with, and have used the Web.

## III. Variety of issues arising from hyperlinks.

Hypermedia information systems are media which raise legal issues familiar to any communication medium: defamation<sup>6</sup>, misrepresentation<sup>7</sup>, passing off<sup>3</sup> etc<sup>9</sup>. This essay is not concerned with all these issues but is only concerned with the novel copyright issues which arise from the distinctions between hypermedia systems and traditional media.

Hypermedia systems are distinguished from other digital media by the capacity to hyperlink resources. Professor Samuelson has identified hyperlinks<sup>10</sup> as being one of the six characteristics of works in digital form which are most likely to "change significantly the contours of intellectual property law"<sup>11</sup>.

The ability to link one document to another raises many copyright related issues including:

- As a matter of current law, is hyperlinking ever a breach of copyright?
- How should resource owners and authors deal with current copyright law?
- How does the software involved affect these issues?
- As a matter of policy, to what extent should hyperlinks be encouraged?<sup>12</sup>

These questions have not been subject to sufficient legal analysis and are of considerable and novel interest.

#### IV. The Nature of Hyperlinks.

Resources<sup>13</sup> identified by hyperlinks can be either transcluded<sup>14</sup> or referenced. A referenced hyperlink appears as an icon or expression on the screen which when activated by a browser causes the browser's home computer<sup>15</sup> to retrieve the resource identified by the hyperlink. For example, on the Web, a referential hyperlink appears as the familiar underlined expression which when

INSIDE THIS ISSUE 1996 CAMLA ESSAY PRIZE WINNER: COPYRIGHT AND THE WORLD WIDE WEB TELECOMMUNICATIONS REFORM IN AUSTRALIA AND THE UNITED KINGDOM THE MEDIA AND INDIVIDUAL PRIVACY BROADCASTING: IMPACT OF AUSTRALIA'S TREATY OBLIGATIONS ON ABA FUNCTIONS UPDATE ON PROJECT BLUE SKY activated by user's mouse-click causes the user's home computer to retrieve and display the resource identified by the underlying reference<sup>16</sup>.

"Transclusion" is one of Ted Nelson's ideas<sup>17</sup>. The simplest illustration of transclusion is the IMG tag<sup>18</sup> within a web page<sup>19</sup>. The digital data making up an image on a web page is not stored together with the text surrounding it. The underlying address of the image resource is simply noted as an IMG tag within the text and the image - which is located on a server somewhere on the internet - is retrieved by the reader's browser software and is finally incorporated into the text on the browser's computer screen by the browser's home computer. It merely appears that the image and the text necessarily came from the same source. This procedure is explained in Diagram 1.0 below.

Of course, transclusion need not be limited to images and could be of text, movies, VRML  $etc^{20}$ . For the purposes of the analysis below, it is important to note that the author of the first document (which has the IMG tag within it) need not reproduce the resource transcluded within it, transclusion is therefore said to be "quoting without copying"<sup>21</sup>.

#### V. So, what's the issue?

There is no objection, on copyright grounds, to hyperlinking where the resource being hyperlinked is owned by the hyperlink author. However, when the resource which is identified by a hyperlink is owned by a party other than the hyperlink author, there may be a problem - particularly where the resource is transcluded. After all, from the potential browser's perspective, although the author hasn't actually copied the file, it appears to be at least "virtualcopying"...

Two brief real-life examples illustrate the issue. In one case a student created a web page which transcluded a number of comic images in order to place all his favourite comic strips on one page and save himself browsing time each day when he read all his comics. The commercial organisation which had placed these comic images on their own server on the web insisted that the transcluded links be removed immediately on the basis that such links violated U.S. copyright law<sup>22</sup>. In another example, an organisation which operated a classified advertising service on the

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Web had its adverts linked to by a competitor service interested in gaining a commercial advantage by having the largest pool of  $adverts^{23}$ .

#### VI. Current Australian Copyright Law.

The legal issues will be analysed in this section by using the Web as an illustration.

There are three parties to consider: the web page author ("the author"), the person browsing the page ("the browser"), and the owner of the copyright in the resource being transcluded or referenced ("the owner"). It is assumed, for the purposes of this analysis, that the resource is itself protected by Australian copyright and the owner has the associated exclusive rights<sup>24</sup>. Furthermore, it is assumed that the reproduction by a browser of the owner's resource into the home computer's RAM<sup>25</sup> amounts to a reproduction within the meaning of the Copyright Act 1968 (Cth)26.

# (i) Is the author *directly* infringing copyright by hyperlinking to the owner's resource?

Let us assume that the owner has placed a resource on the Web at a URL<sup>27</sup> chosen by the owner. Let us then assume that the author has included within a web document a hyperlink to this URL which generally means the author had to reproduce the URL<sup>28</sup>. Conceivably, the owner could claim a copyright in the URL address as a literary work<sup>29</sup>, and that the author has infringed this copyright by reproducing it within his document.

However, a URL address chosen by the owner could not be copyrightable as a literary work. Names and words are not copyrightable<sup>30</sup> as literary works and, similarly, it is unlikely that a court would find that a URL was substantial enough for it to afford "information, instruction or pleasure in the form of literary enjoyment"31. A URL appears to be an "instruction" of the type contemplated by the definition of a "computer program" within s10(1) of the Copyright Act 1968 (Cth) and therefore arguably a literary work by virtue of s10(1)32. Nevertheless, it is unlikely that a single URL would amount to a "set of instructions"33 and therefore a computer program within s10(1). It is therefore submitted that copyright does not subsist in a single URL.

#### (ii) Nevertheless, is the author indirectly infringing the owner's copyright by referring or transcluding to the owner's resource?

The author's plight is not over. Not only is it an infringement for a person other than the copyright owner to do an act comprised in the copyright, it is also an infringement to authorise the doing of an act comprised in the copyright<sup>34</sup>. This is called *indirect infringement*.

Although the author only reproduces the owner's noncopyrightable URL and never reproduces the owner's resource, the browser does reproduce the owner's resource. This reproduction occurs when the browser's computer requests the resource pointed to by the author's URL and receives the resource in a transmission from the owner's server.

In order to find that the author has indirectly infringed the owner's copyright in the resource, the owner must show that: (1) the browser has infringed the owner's copyright in the resource; and (2) the author has authorised this infringement.

#### (a) Assuming the browser has infringed the owner's copyright, has the author authorised this infringement by authoring a hyperlink to the owner's resource?

The University of New South Wales v. Moorhouse & Anor<sup>35</sup> is the key Australian case on this point and lists several indicators of authorisation by which our hypothetical author appears to be tainted. The author "had the power to prevent"36 this infringement, and also "had reason to suspect that the act might be done"37. Importantly, unlike CBS Inc. & Anor v. Ames Records & Tapes Ltd<sup>38</sup> there is no ambiguity about the material to be reproduced and therefore no conceivable legitimate reproduction. The author's link therefore effectively amounts to an unambiguous instruction on how to commit a copyright infringement by reproducing the owner's resource, and on the assumption that the browser infringed copyright, would amount to an indirect infringement of the owner's copyright.

(b) Has the browser infringed the owner's copyright by following the author's transcluded or referential link and reproducing the owner's resource? Firstly, for the purposes of determining whether the author is liable for an indirect infringement, we can ignore a potential "innocent infringement" defence by the browser this defence would not affect a finding of indirect infringement by the author but would only eliminate an award of damages against the browser<sup>39</sup>.

A possible reason why the browser (and therefore the author) might not have infringed the owner's copyright is if the browser had the owner's implied licence<sup>40</sup> to reproduce the resource.<sup>41</sup>. Is there an implied licence to reproduce in all instances of web browsing? This is really the core of the issue.

Implied licences are not necessarily infinite in scope. For example in Stovin-Bradford v Volpoint Properties Ltd & Anor<sup>12</sup> an implied licence to reproduce an architect's plans extended only to reproduction for the purpose obtaining planning permission. Similarly in Roberts v. Candiware Ltd<sup>43</sup> an implied licence to copy designs from a book extended only to the making of garments for personal and not commercial use. In MacLean Assoc. v. WM. M. Merceer-Meidinger-Hansen" the U.S. Court of Appeal held that an implied licence to use computer software did not extend to "copying parts of it wholesale into computer programs ... ".45

Furthermore, unlike the cases above, a web-browser and resource-owner do not generally have a pre-existing relationship<sup>46</sup> but only a relationship that evolves as a browser navigates through the owner's site. Once the browser has loaded the owner's home-page47 and then activated a hyperlink to go to another of the owner's pages, it can be safely assumed that the owner has granted an implied licence to reproduce the next page which the owner has itself hyperlinked to. However, we must also consider the circumstance where the browser and owner have no pre-existing relationship and the browser goes immediately to the owner's subsidiary page after having activated a hyperlink on a third-party author's page.

The Australian case De Garis v Neville Jeffress Pidler Pty Ltd (the Journalists' case)<sup>48</sup> sheds some light on this issue. This case suggests that a court would be reluctant to imply a licence authorising reproduction by a party without a pre-existing relationship and "business efficacy". In this case, a journalist working for a newspaper sued a third party which operated a press-clipping service for copyright infringement. One of the press-clipping service's defences was that the surrounding circumstances and common practice operated to imply a licence by the journalist to authorise reproduction by the press-clipping service<sup>49</sup>. Beaumont J rejected both these arguments and held that such a licence would only be implied where a relationship existed between the press-clipping service and the journalist and where business efficacy required its implication.<sup>50</sup>

Where a browser is reading a subsidiary web, having not previously read a superior page in the owner's hierarchy<sup>51</sup>, what conceivable bases are there for arguing an implied licence exists?

In light of the *Journalists' case*, which suggests that "common practice" is insufficient and a pre-existing relationship is required, it is interesting that the only basis put forward by commentators for implying a licence in these circumstances is general Web practice<sup>52</sup>.

#### General Web Practice.

Some commentators argue that there are two factors which indicate that a broad implied licence has been granted by an owner once material is available on the Web<sup>53</sup>. One commentator has even written that the Web is subject to a "...doctrine of Implied Public Access"<sup>54</sup> - whatever that is. The first argument is that the owner has clearly made the resource available to the public, evidenced by the fact that it is the owner's server which sends the material to any requesting browser. Secondly, they rely on general web custom<sup>55</sup>:

The raison d'etre of the World Wide Web is to be cross-linked...People who make publicly available web sites know, or should know, that they are joining a community in which the shared values include things being as strongly cross-linked as possible.

As will be seen below, the first argument may be misleading in implying that a technological solution exists, and also that an omission to use it suggests an implied licence has been granted<sup>36</sup>. As discussed above, the success of the second argument depends on how much weight a court gives to evidence of common practice.



The Nature and Location of the Resource Being Hyperlinked.

Aside from the problems of relying on general Web practice to imply a licence, the nature and location of material being loaded may indicate that there is no implied licence.

The set of linked resources on the owner's server is generally set up in a hierarchy. A user is generally<sup>57</sup> expected to first retrieve the apex of the hierarchy - the "home page" - or some other main branch, and then continue to browse through the owner's material by following referential links inserted by the owner. The necessary reproduction of resources involved in such browsing by following links on the owner's own pages is clearly subject to an implied licence<sup>58</sup>. However, the resources closest to the base of the hierarchy - such as multimedia files, or underlying full-text documents are less likely to be intended to be entry points to the owner's web hierarchy, and the implied licence to read these documents may be restricted to browsers who have retrieved these resources by activating links from the owner's pages further up the hierarchy.

Such restrictions with regard to implied licences seem particularly likely with respect to transcluded resources. A court may find that an implied licence allowing transclusion of a resource may only allow for reproduction where the resource is transcluded into the owner's document. For example, there may be an implied licence to reproduce and transclude a comic strip image, but only when transcluded into the owner's document<sup>59</sup>.

#### (c) Proactive action by an author or by an owner.

The uncertain nature of implied licences suggests that the most prudent course of action for owners and authors is to be proactive rather than wait to see which way a court decides.

#### **Owners**

As noted above, some commentators suggest that the transmission by the owner to the browser implies a licence. This argument presumes that it is open to the owner to deny "unauthorised browsers" access to certain resources. There appear to be several technical possibilities which an owner could proactively employ<sup>60</sup>. However, as illustrated by the historical copy-protection "arms-race" between software pirates and software vendors, technological "solutions" are generally only a deterrent and only work in the short term<sup>61</sup>. There ought to be a copyright back-stop.

It seems that the most appropriate legal strategy for Web resource owners is to expressly delimit the scope of the implied licence they are granting<sup>62</sup>, and to expressly grant a licence to link where appropriate<sup>63</sup>. Consider the following examples<sup>64</sup>:

All Materials Contained Herein Are Copyright FOX And The Work In Creating The Multimedia Files Is The Work Of sfb@netcom.com. Inserting Direct Links To The Individual Files Or File Sections, WITHOUT Permission Of sfb@netcom.com is prohibited. Linking To The Page Itself Is Both Permitted And Appreciated.<sup>65</sup>

#### Another example is<sup>66</sup>:

This work is not to be used in the making of web pages as icons or inline images without the written consent of the author.

Finally, part of Microsoft's web-page copyright notice reads<sup>67</sup>:

...and (4) no graphics available from this Server are used, copied or distributed separate from accompanying text.

#### Authors

Obviously, it is a good idea for authors to read the owner's express restrictions and permissions before presuming an implied licence with a wide scope. If the owner has not made the scope of the licence clear, then it is <u>extremely</u> unlikely that a link to the "home page" or other pages near the apex of the hierarchy will be an infringement. For other material, and <u>particularly</u> material which has been transcluded by the owner and/or multimedia resources it is submitted that it would be prudent to get an express licence from the owner before hyperlinking to these resources<sup>68</sup>.

#### VII. The Future?

It is impossible to be certain of how the software and "law-ware" will turn out. Nevertheless, a very persuasive solution combines transclusion and express licensing - making the issues discussed above of key significance. This solution suggested by Ted Nelson himself is the concept of "Transcopyright"<sup>69</sup>. This concept is similar to the proactive advice given to owners above. Nelson's suggestion is to create a short form express licensing scheme. The short form will appear as: "Trans(c) Name of Person; Location of Resource". This short form will have the following long-form meaning<sup>70</sup>:

Permission is granted to all parties in the universe to re-publish the bytes of these materials virtually<sup>71</sup> in new on-line contexts, provided (1) that such virtual republication consists of transmitting only a purchase address for bytes to be included in a particular new context; and provided (2) that the present publisher is notified of any such virtual republication<sup>72</sup>

Such a solution approximates the Xanadu model and requires no change to existing copyright law<sup>73</sup>. Presumably the owner will be paid per byte... If this appears to resemble the old Xanadu model, that is because it is virtually identical...perhaps Ted Nelson got it right from the start.<sup>74</sup>

Tamir Maltz is a 1996 Commerce/Law graduate of the University of New South Wales. The author has not had the opportunity to incorporate two recent and relevant cases which readers are referred to: Trumpet Software Pty Ltd & Anr v Ozemail Pty Ltd Unreported, Federal Court, 10 July 1996 and "The Shetland Times Litigation" discussed at http://www.shetland-news.co.uk/, and at http://www.shetland-times.co.uk/.

1 Toffler A, Toffler H, "Creating a New Civilization: The politics of the third wave" (1995) Turner Publishing.

2 The reason I have used the term hypermedia rather than the term hypertext is that the concept of a resource is wider than text, and also includes video, sound, still pictures, VRML etc:

"...Let's say you're watching the news and you see someone you don't recognise walking with the British prime minister. You want to know who she is. Using your television's remote control, you will point at the person. That action will bring up a biography and a list of other news accounts in which she figured recently..." - W. H. Gates, "The Road Ahead" (1995) Viking Press, at p82.

3 This essay assumes a solid "user's" understanding of the internet, and particularly the world wide web environment. There are numerous sources of introductory material.

4 The earliest use of hypertext like constructions is probably in the Hebrew Talmud - G. Wolf, "The Curse of Xanadu" Wired 3.06, at 141.

5 See Nelson T, "Computer lib: and Dream Machines" (1974); Pam A, Nelson T, "Xanadu FAQ" at http://www.xanadu.com.au/xanadu/ faq.html; Also, a speech by Ted Nelson at the Internet 1996 World Expo in Japan is available in RealAudio format at http://home.impress.co.jp/ rtimes95/event/keynote/ted.ram -the relevant portion begins at around 23:50. 6 For example, X could author a hyperlink which reads "Click here to see a criminal's page" which then links to Y's page.

7 For example, company X could use hyperlinked images to mislead customers about the quality of X's goods.

8 For example, company X represents, by somehow misusing a hyperlink to company Y's site, that company Y manufactures company X's products.

9 See message by Carl Oppedahl to net-lawyers listserv, on Monday, 5 February 1996 titled: "Re: Interesting new visitor logging".

10 "Hyperlink" is the generic term for a function performed by a hypermedia implementation which appears to "associate" or "connect" a digital resource (or part of it) on a server to another digital resource on a server. The attributes of this "connection" are a function of the hypermedia implementation. The first point to realise is that such associations between resources allows a browser of information to quickly navigate between various resources on various servers.

11 Samuelson P, "Symposium: Electronic Communications and Legal Change: Intellectual Property Rights for digital library and Hypertext Publishing Systems" (1993) 6 Harv, J. Law and Tec. 237, at 240-242.

12 Due to space constraints, policy issues are not discussed in this version of the paper.

13 Resource, in this essay, is a digital file sitting on a server somewhere on a network containing information which can be in an infinite number of formats: sound, movie, text, VRML etc.

14 Transclusion will be further explained below, however for readers familiar with the Web, the synonymous term - "infining" - may be immediately familiar.

15 I use the term "home computer" to distinguish the a browser's computer from the computer at the other end - a "server".

16 For example, in HTML: <a href="www.this.is.the.underlying.reference">This is the underlined expression.</a>

17 Wolf, op. cit., at 151.

18 The "IMG" command is the command in the Hypertext Markup Language which allows authors of web pages to include images within their documents.

19 Images are the only data types which are formally transcludable in current official versions of the HTML standard - see Pam A, "Where World Wide Web Went Wrong" (1996) available at: http://www.csu.edu.au/special/conference/ apwww95/papers95/apam/apam.html. An example of an HTML iamge transclusion is: <img src="http://www.a.server.somewhere/ the\_image\_file.git">

20 Particularly given Netscape 2.X's frame capabilities.

21 Wolf, op. cit., at 151.

22 See the student's analysis of U.S. copyright law at http://seidel.ncsa.uiuc.edu/copyright/.

23 Eric Doney, Donahue, Gallagher, Woods & Wood - Email message to cni-copyright list, Tue, 16 January 1996. It appears that this was not actually a transclusion, but is something that could have been implemented by a transclusion and is an illustration of the potential problem.

24 The various categories of protected works and non-works (Part IV material) under the the Australian *Copyright Act 1968 (Cth)* are defined in s10(1). Also see McKeough, Stewart, "Intellectual Property in Australia" (1991), at 110-129.

#### 25 Random Access Memory.

26 s10(1) provides that reproduction into a material form is reproduction into a form which:

"includes any form (whether visible or not) of storage from which the work...or a substantial part of the work can be reproduced...".

It is submitted that copying a resource into RAM amounts to a reproduction, as was assumed by the Copyright Law Review Committee in "Computer Software Protection" (1995), at para 10.10. In the U.S., the position is similar: Advanced computer services of Michigan Inc. v. MAI Systems Corp., 845 F. Supp 356; Also see Post D (Prof), "Who Owns the Copyright? Opportunities and Opportunism on the Global Network", Unpublished Draft October 29, 1995, at page 25 - available on request from the author at Postd@law.georgetown.edu

27 A URL is a Universal Resource Location. It is a unique "address" where a resource can be found.

28 Although not the resource itself of course.

29 No other subject matter within the *Copyright* Act 1968 (cth) seems relevant.

30 Exxon Corporation & Ors v. Exxon Insurance Consultants International Ltd (1982) R.P.C. 69.

31 CCH Intellectual Property Reporter, at [1-970]; McKeough op. cit., at [613].

32 s10(1) of the *Copyright Act 1968 (cth)* defines a "literary work" to include a "computer program".

33 s10(1) Copyright Act 1968 (cth).

34 per ss36(1) and 101(1) of the *Copyright Act* 1968 (Cth); CCH Intellectual Property Reporter, at 7-600.

35 (1975) 133 CLR 1

36 Ibid, at 12-13.

37 Ibid.

38 (1982) Ch. 91

39 s 115(3) Copyright Act 1968 (Cth).

40 s36(1) and 101(1) of the *Copyright Act 1968* (*cth*) operate so that it is only an infringement to do any act comprised in copyright, *\*without the licence of the owner of the copyright*, Any non-exclusive licence under the *Copyright Act* 1968 (*cth*) need not be in writing.

41 Other internet instances where an implied licence to reproduce may arise are not discussed here. For a discussion of caches see D Post, op. cit. and for newsgroups see: "...Delivery of a copy of a work by the copyright owner to the moderator of a newsgroup may imply a licence to reproduce and distribute copies of the work to the subscribers of that newsgroup..." - Information Infrastructure Task Force report: "Intellectual Property and the National Information Infrastructure" (1995), p81 ff424.

42 (1971) Ch 1007

43 (1980) F.S.R. 352

44 952 F.2d 769 (3rd Cir. 1991)

45 lbid, at p779.

46 None of the cases noted in either the CCH Intellectual Practices Reporter at [6-400], or Niummer on Copyright at 10.03[A] concern gratuitous implied licences.

47 The apex page in a web site hierarchy. Discussed further below.

48 (1990) 95 ALR 625

49 See McKeough, op. cit., at [711].

50 (1990) 95 ALR 625, paragraphs 62-64.

51 As discussed above, if the browser had first retrieved the owner's home-page, then there would clearly be a legal relationship which would set up an implied licence for all subsequent pages linked from the home-page and subsidiary pages.

52 Noted in Information Infrastructure Task Force report: "Intellectual Property and the National Information Infrastructure" (1995), at p81, ff424.

53 See Oppedahi & Larson, "Web Law FAQ" (1996) at http://www.patents.com/weblaw.sht, Also Post D, op. cit., at 28-9.

54 Benedict O'Mahoney P.J. "Web Issues", available on the internet at: http:// www.benedict.com/webiss.html

55 Message by Carl Oppedahl to cni-copyright listserv on Thursday, 17 August 1995, titled: "Re: WWW - Implied Licence".

56 Nevertheless, some commentators have argued that an adaptation of the *Moorhouse* case analysis (noted above) may lead to this conclusion - ACLIS, "Libraries and Digital Information" (1995) Vol 5 Copyright Bulletin 3, at pp 5, 7.

57 I am clear in admitting that this is not always the case - but I am using the general case to Illustrate the analysis.

58 Based on a continuing "browsing" relationship with the owner. The owner is "licencing" the browser everytime the owner displays a link to his own material.

59 See http://seidel.ncsa.uiuc.edu/copyright/

60 Such as dynamic resource locations, and password restrictions, however these are costly and have limitations - for example, dynamic web addresses may make it impossible for even authorised users to keep a bookmark of a particular resource.

61 Since a technological arms race is ultimately unacceptable, it is not a sufficient reply that the law is will always be behind the technology - cf. Norderhaug T, Oberding J, "Designing a Web of Intellectual Property" (1995) Computer Networks and ISDN Systems, 27(6), 1037-46; available on the internet at http://www.ifi.uio.no/~terjen/pub/ webip/950220.html

62 "...where the copyright owner does take steps to limit the use of the work, for example, by displaying words of limitation at the WEBsite...then it would be difficult to claim an implied licence to make copies when browsing works at the site" - ACLIS, op. cit., at 7; Also consider that these licences may evenetually be incorporated into Web technology. For example, a digital header in every resource may indicate the permissible scope of copying (and a the amount of a required micropayment)- See Post D, op. cit., at page 34.

63 Of key importance is for the owner to expressly licence links to the owner's home page. It is, *in general* (though not always), in an owner's interest to have links to various parts of his or her site. With more links, comes more traffic and therefore more rewards from having a web site.

64 Since these are references to potentially dynamic web pages, the actual text may have changed by the time of publication.

65 Available on the internet at: http:// rampages.onramp.net/~brummett/space.html; noted by Hayden R, message to Cyberia-L listserv, Thursday, 18 January 1996, titled: "Is linking stealing?".

66 See http://www.art.nat/Studios/Visual/Bianchi/ copyright.txt

67 At http://www.microsoft.com/MISC/ CPYRIGHT.HTM; for further examples seehttp:/ /www.tscnet.com/copyright.html; and http:// www.aros.net/~realty/cpyright.html; and http:// www.acm.org/pubs/copyright\_policy/

68 Suggested by Bell R.S., in message to netlawyers listserv, Tuesday, 6 February 1996, titled: "Hypertext pointers to someone else's web site."; also by Benedict O'Mahoney op. cit.

69 Nelson T, "Transcopyright: Pre-Permission for Virtual Republishing" (1995) draft version available at: draft version of a paper available at: http://fizzgig.glasswings.com.au/xanadu/ transcopy.html

70 As a result of custom, or by public declaration.

71 "Virtual re-publishing" in Nelson-speak means transclusion.

72 Nelson, T \*Transcopyright: Pre-Permission for Virtual Republishing\*, op. cit.

73 lbid.

74 The Xanadu project has been "the longestrunning 'vapourware' project in the history of computing - a 30 year saga of rabid prototyping and heart slashing despair." - Wolf, op. cit., at 137.; For a deep critique/praising of Xanadu's intellectual property regime, see Samuelson op. cit.