

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 3-JUN-1997 18:48:54.00

SUBJECT: Re: Draft cloning legislation

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])
READ:UNKNOWN

TEXT:
Where is the attachment? Thanks.

Elizabeth Drye @ EOP

06/03/97 06:31 PM

To: Rachel E. Levinson/OSTP/EOP @ EOP, William P. Marshall/WHO/EOP
@ EOP, Toby Donenfeld/OVP

cc: Janet Murguia/WHO/EOP @ EOP, Susan A. Brophy/WHO/EOP @ EOP

Subject: Draft cloning legislation

Here is the first cut at cloning legislation. Please be ready to discuss
at our 11:00 meeting tomorrow. Thanks.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 3-JUN-1997 17:00:39.00

SUBJECT: Re: Cloning

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])

READ:UNKNOWN

TEXT:

I'll be there. Thanks.

Elizabeth Drye @ EOP

06/03/97 04:37 PM

To: William P. Marshall/WHO/EOP @ EOP, Rachel E. Levinson/OSTP/EOP

@ EOP, Toby Donenfeld/OVP, Christa Robinson/OPD/EOP @ EOP

cc:

Subject: Cloning

Please come to an 11:00 am meeting tomorrow in room 211. We will discuss

draft legislation, which I will e-mail to you shortly, and rollout next

week. Please

RSVP.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 5-JUN-1997 21:51:26.00

SUBJECT: Re: Draft cloning fact sheet

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])

READ:UNKNOWN

TEXT:

Hi. Could you please e-mail me the code for the 10:30 conference call?

Thanks.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 6-JUN-1997 18:31:10.00

SUBJECT: VP on sunset of cloning

TO: Elena Kagan (CN=Elena Kagan/OU=OPD/O=EOP @ EOP [OPD])

READ:UNKNOWN

TEXT:

----- Forwarded by Toby Donenfeld/OVP on 06/06/97 06:24

PM -----

Toby Donenfeld

06/06/97 06:27 PM

To: Elizabeth Drye/OPD/EOP @ EOP

cc:

Subject: VP on sunset of cloning

The VP responded that he supports that the ban continues unless Congress acts to discontinue the ban and that there should be something written into the legislation that call for a general review (after 5 years) to explore the safety and moral issues. The VP said "a review, not a sunset or expiration."

Hope that's helpful. Thanks.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 6-JUN-1997 18:10:13.00

SUBJECT: cloning

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])
READ:UNKNOWN

TEXT:

Still waiting to hear back from the VP. I expect an answer in the next 10

-15 minutes. One other thing, that's not urgent: at some point can we

discuss who the VP should acknowledge at this event on Monday? I'm just

not sure who's there. Let's run through it on Sunday. Thank you!

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 6-JUN-1997 10:43:17.00

SUBJECT: Re: Draft cloning fact sheet

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])
READ:UNKNOWN

TEXT:
Thanks. I'm on.

Elizabeth Drye @ EOP

06/06/97 10:28 AM

To: Toby Donenfeld/OVP

cc:

Subject: Re: Draft cloning fact sheet

Conf call # is 6-6777; code 6826

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 6-JUN-1997 18:27:43.00

SUBJECT: VP on sunset of cloning

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])

READ:UNKNOWN

TEXT:

The VP responded that he supports that the ban continues unless Congress

acts to discontinue the ban and that there should be something written

into the legislation that call for a general review (after 5 years) to

explore the safety and moral issues. The VP said "a review, not a sunset

or expiration."

Hope that's helpful. Thanks.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Toby Donenfeld (CN=Toby Donenfeld/O=OVP [OVP])

CREATION DATE/TIME: 8-JUN-1997 17:25:51.00

SUBJECT: What do you think? Elizabeth -- I used the benefits of research stuff from the Bio and Pharma folks, do you think it's accurate? Thanks.

TO: Elizabeth Drye (CN=Elizabeth Drye/OU=OPD/O=EOP @ EOP [OPD])
READ:UNKNOWN

TO: Eric L. Schnure (CN=Eric L. Schnure/O=OVP [OVP])
READ:UNKNOWN

TEXT:
DRAFT REMARKS FOR THE VICE PRESIDENT

CLONING EVENT

June 9, 1997

Acknowledgments.

I would like to especially thank the members of the National Bioethics Advisory Commission who have labored for three months with the extremely complex issues related to human cloning. The Commission has done a remarkable job and is presenting the President with a well-thought out report examining the many scientific, safety, ethical and religious implications of human cloning. Would the members please stand and be recognized?

The issue of human cloning is not an issue that any of us take lightly:
The President and I, along with the rest of the nation have been grappling with the meaning and significance of the cloning of a sheep achieved in February.

As we seek to protect ourselves, our nation and the world from dangerous and less understood technology, we must keep in mind the benefits we achieved through other types of cloning research. The Clinton Administration has remained committed to biomedical research because of the benefits they provide to us all.

Cloning technologies have been developed to clone cells and genes have been used to develop medicines, diagnostic products and vaccines to treat heart attacks, various cancers, kidney disease, diabetes, hepatitis, multiple sclerosis, cystic fibrosis and other deadly and disabling diseases. The cloning of human cells and genes is not and cannot be used to replicate an entire human being and it is essential that this important research continue.

Cloning technologies have also been used successfully in agricultural research to enhance production of quality fruits, vegetables and in animal production.

We must strive to find that perfect balance where important biomedical research can continue while we investigate scientific, safety and ethical concerns of new technologies.

I would again like to thank the National Bioethics Advisory Commission and would now like to introduce Dr. Harold Shapiro, the Chair of the Commission and President of Princeton University, who will formally present the report to the President.

RECORD TYPE: PRESIDENTIAL (TRP NOTES MAIL)

CREATOR: Jim Kohlenberger (CN=Jim Kohlenberger/O=OVP [OVP])

CREATION DATE/TIME:23-JUL-1997 14:32:49.00

SUBJECT: Re: Economic and Social Impact of Information & Communications Technology

TO: Thomas A. Kalil (CN=Thomas A. Kalil/OU=OPD/O=EOP @ EOP [OPD])

READ:UNKNOWN

TEXT:

Tom,

In addition to using ELSI as an example, we also recently created the bioethics advisory commission. This is the group we handed the cloning issue to to get back to us with a recommendation. One might imagine a similar Social and Eithical IT board with a broad membership that could provide a forum for bringing together disparate voices to address some of the challenges that you raise before they boil over -- its bringing the high touch to high tech..

Just a thought.

To: Henry C. Kelly/OSTP/EOP @ EOP, Brian G. Kahin/OSTP/EOP @ EOP,
Daryl E. Chubin/OSTP/EOP @ EOP, Jim Kohlenberger/OVP, Jack D.
Fellows/OMB/EOP @ EOP

cc:

From: Thomas A. Kalil/OPD/EOP @ EOP

Date: 07/23/97 01:42:42 PM

Subject: Economic and Social Impact of Information & Communications

Technology

Attached is a draft paper I did that makes the case for an FY99 initiative in this area.

I'm going to talk to Joe Bordogna to see how he wants to follow up on this.

Please let me know:

(a) if you have comments on the paper

(b) if you'd be interested in participating in any meetings on this subject

I specifically did not put any budget numbers in this paper because I want to see if we can get consensus on the need for such an initiative before considering funding levels.

Social science is relatively cheap, however.

===== ATTACHMENT 1 =====
ATT CREATION TIME/DATE: 0 00:00:00.00

TEXT:

Unable to convert ARMS_EXT:[ATTACH.D11]ARMSZZ000933P.000 to ASCII,

The following is a HEX DUMP:

===== END ATTACHMENT 1 =====

Economic and Social Impact of Information Technology: (Kalil -- Draft 7/23/97)

I. Background

Information and communications technologies are having a pervasive impact on our economic, political, social, and cultural life. As we enter the 21st century, we should expect this trend to accelerate, as information technology becomes more powerful and widely available. For example:

- Our ability to store, process, and transmit information is continuing to improve at exponential rates. The semiconductor industry is already developing the technology that will allow them to put billions of transistors on a single integrated circuit. Fiber optics technology will eventually allow us to transmit all of the phone traffic on Mother's Day on a single strand of fiber.
- The Internet, which connected 2,000 computers in 1985, now connects 16 million computers, and is continuing to double in size every year.
- Satellite and wireless systems will soon provide users with "anytime, anywhere" communication.
- Remote sensing systems offering 1-meter resolution imagery of the entire planet will be commercially available in 1998.
- "Building blocks" for new applications are being developed such as digital signatures, electronic payments, shared virtual environments for collaboration, intelligent agents, audio and video-on-demand, reusable software objects, tools for discovering and retrieving information, and speech recognition.
- Applications are being developed in areas such as entertainment, electronic commerce, delivery of government services, digital libraries, health care, life-long learning, environmental monitoring, geographical information systems, "collaboratories" for scientific research, community networks, intelligent transportation systems, access to information for people with disabilities, collaborative design, crisis management, etc.

Despite the significant economic and social impacts of this technology, the federal government has not sponsored a great deal of social science research in this area. For example, there is no equivalent in the information technology area of the ESLI (Ethical, Legal and Social Implications) Research Program of the National Human Genome Research Institute. ELSI supports basic and applied research that identifies and analyzes ethical, legal and social issues surrounding human genetics research, such as: discrimination in insurance and employment based on genetic information; when and how new genetic tests should be integrated into health care services; and informed consent in genetics research

Additional support for social science research on information and communications technology -- and greater interaction between social scientists and specialists in IT -- is critical for a variety of reasons:

- As discussed above, this technology will have a pervasive impact on our economy, society, culture, and political system. Although there are plenty of pundits who are willing to speculate on the impact, much of this speculation is occurring in the absence of solid, empirical data.
- Insights derived from social science research may be able to contribute to the design of information systems. The design of groupware, for example, should be informed by an understanding of how groups of people actually share information and make decisions.
- The technology is raising a series of important, complicated policy issues, such as privacy, intellectual property rights in a digital environment, the emergence of information "haves" and "have-nots", and the impact of state and national regulation on the global Internet. Social scientists may be able to make a contribution to these ongoing debates by conducting additional empirical research on the impact of IT, but also engaging in normative discussions about what "ought" to be.
- Some of the social issues raised by information technology may be partially addressed through technical solutions. For example, the World Wide Web Consortium is developing a set of technologies known as the Platform for Privacy Preferences (P3). Using the technology, a user will be able specify his or her privacy preferences. Web sites that fall within the range of a user's preference will be accessed "seamlessly," otherwise users will be notified of a site's practices and have the opportunity to agree to those terms or other terms and continue browsing if they wish. Support for these kinds of activities could solve some of the problems raised by new technology while reducing the need for legislation or regulation.
- Many of the barriers to realizing the benefits of these new information and communications technologies are not technical, but social, political or legal. For example, deployment of telemedicine is being slowed by state-by-state licensure of doctors. The use of geographical information systems is hampered by the difficulty of sharing GIS data across organizational boundaries. Widespread use of electronic commerce will require mechanisms for creating trust between parties in an online environment. Social science research could shed light on these barriers and possible solutions.

II. Examples of research topics

Clearly, there is a large number of potential research topics in this area. Below are a few examples:

1. **Diffusion of innovation:** Companies are scrambling to develop mechanisms to share “best practices” within their firm - often using groupware and intranets. Texas Instruments, for example, found such wide disparity in the yields of their wafer fabrication sites that they launched an effort to create a “free fab” by closing the productivity gap between their world-class fabs and the manufacturing facilities that were lagging behind. These same techniques could be used to promote diffusion of socially useful innovation that is occurring at the state and local level. Does the literature on diffusion of innovation (e.g. Rogers, 1995) and computer-supported collaborative work shed any light on how to design technical and social systems that will encourage diffusion of best practices, not only within a firm, but within a community of practice?
2. **Evolution of knowledge:** Drexler argues that properly designed hypertext systems can contribute to the evolution of knowledge, by, for example: enabling authors to link pithy ideas to existing content (meaningful one-sentence publications); allowing critics to attach comments directly to a target work; enabling easier formation of intellectual communities; and allowing authors to express networks of facts and relationships. How are new tools (the Web, public annotation, collaboratories, e-print archives, etc.) changing the conduct of science, scholarly debate, and public discourse? Why are they having different impacts in different fields? What are the limitations of today’s tools, and how might they be overcome?
3. **Self-regulation:** Some argue that many of the social issues associated with information and communications technology (e.g. consumer privacy) - can and should be dealt with through industry codes of conduct and self-regulation. Under what circumstances can industry self-regulation be effective?
4. **Residential broadband deployment:** Why have local telephone and cable companies curtailed their plans for deployment of broadband services to the home? What effect will current pricing and unbundling regulations have on incentives by telecommunications companies to invest in broadband networks?
5. **Network externalities:** What public and private mechanisms have proven effective in dealing with the “chicken and egg” nature of network industries?
6. **Applications:** A wide range of applications for information and communications technologies have been identified (see above). What can social science contribute to (a) evaluation of the costs and benefits of IT in these application domains; and (b) identifying barriers to the adoption of these applications?

7. **Productivity paradox:** Economists continue to argue about why increases in U.S. productivity have remained sluggish despite large private sector investments in information technology. What additional empirical research, particularly at the sectoral level - could shed light on this issue?
8. **Informed participation:** Some argue that these new information and communications technologies will allow more opportunities for “informed participation” and higher levels of transparency and disclosure in political and community affairs at the national, state and local level. For example, residents of Los Angeles were able to see 3-D visualizations of proposals for rebuilding the city after the riots before zoning changes were made. Community activists are being trained to use the Toxic Release Inventory data to discover which companies are emitting high levels of pollution in their neighborhood. More and more elected officials accept e-mail from constituents. What are the circumstances in which technology can be effective in expanding opportunities for informed participation? How will elected officials and policy-makers cope with the “information overload” problem?
9. **Changing role of key institutions:** Information and communications technologies will create both threats and opportunities for existing organizations. For example, some universities may be able to serve non-traditional students (e.g. adult students who can’t attend a university full-time) by expanding distance learning services. Others may lose students and tuition to “virtual universities” or publishers that can offer courses at a lower cost per credit hour. Some have suggested that the functions of the university (administration, degree-granting, instruction, physical facility) will be “unbundled.” How are key organizations responding to IT-related challenges and opportunities? If existing organizations are unable or unwilling to adapt, will new organizations emerge?

III. Current efforts

NSF is currently supporting some research in this area. The Social Dimensions of Engineering, Science, and Technology (SDEST) program, which has a budget of approximately \$2.3 million per year, is supporting several projects related to information and communications, such as an evaluation of whether a community network project in Minnesota is expanding access to resources and civic participation, and a study of the costs and benefits of anonymous communication online. In addition, there is another NSF program called Information Technology and Organizations which is supporting some social science research, such as a study of the impact of IT on American households, and an analysis of the development of trust among groups working online. NSF is also sponsoring a National Research Council study to develop a research agenda on the economic and social impact of information technology.

Although both the SDEST and ITO programs are supporting some worthwhile research, more needs to be done. The SDEST program, for example, only has a budget of \$2.3 million to support research on all issues related to both: the ethical and value dimensions of science,

engineering, and technology; and the management and direction of research, science, and technology.

IV. Elements of an initiative:

(1) The government should establish a program focused on information and communications similar to the ELSI (Ethical, Legal and Social Implications) Research Program of the National Human Genome Research Institute.

As noted earlier, there is no “ELSI” for information and communications. Such a program could support:

- One or more “centers” (which could be either real or virtual).
- Social science research by individual researchers.
- Inter-disciplinary teams of computer scientists and social scientists that seek to address social issues at the “protocol level” - such as the Platform for Internet Content Selection (PICS) and the Platform for Privacy Preferences (P3).
- Graduate or post-graduate fellowships for social scientists interested in exploring information and communications issues, or computer scientists interested in exploring social issues.
- Workshops and other community-building activities.

An ELSI program could also support efforts to “mediate” between policy makers and social scientists. Unfortunately, policy makers usually don’t have time to pour over scholarly journals or attend conferences. These efforts might include:

- “Headlines” of relevant social science research with links to full text.
- Regularly updated, on-line literature reviews covering key topics.
- Directories of specialists in particular areas.
- Mechanisms that allow for funding of “snap” studies if policy makers are forced to make decisions under time constraints.

(2) Certain government-supported information and communications initiatives should include a social science component.

For example:

- The Digital Libraries Initiative has convened workshops on the social aspects of digital libraries. [See <http://www.dlib.org/groups/socialaspects.html>]
- One of the foci of the Next Generation Internet initiative is “quality of service” - which will not be widely deployed without a workable economic/business model.
- The President’s Council of Advisers on Science and Technology is recommending that the Administration substantially expand its investment in evaluation of educational technology.

(3) Statistical agencies (e.g. Census Bureau, BLS) should expand their collection of data in this area.

An example of this is Census data on computer use and ownership.

(4) Companies could agree to share market-research data with a consortium, which could be made available to social scientists.

Although companies conduct market-research data for proprietary reasons, some of the data might be helpful for social scientists.

References:

K. Eric Drexler. “Hypertext Publishing and the Evolution of Knowledge,” *Social Intelligence*, Vol. 1, No. 2, pp.87-120.

NSF Workshop on Information Technology and Organizations. See <http://www.cs.colorado.edu/~laurav/workshop/itogratees.html>. This page has pointers to the abstracts of the roughly 50 PIs whose work is being supported by the NSF ITO program.

Everett Rogers. Diffusion of Innovations. New York: The Free Press, 1995.