Letters

■ Editor:

Looking at the computer industry as a whole, it is interesting to see the imbalanced participation level of women. There are many theories regarding the "gender gap" in computer usage, most of them undocumented.

I have begun an extensive research study on women and computers. I would appreciate hearing from any of your female readership interested in completing a survey for this study.

Peggy Cole
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■ Editor:

I hereby suggest a new type of feature for *AI Magazine*: extended abstracts for recently-published Ph.D dissertations in AI. Such a feature will be useful in informing the AI community of significant, newly-completed research that is often only published as a technical report, and hence is not widely publicized. A given issue of the *Magazine* might publish several extended abstracts (of say two to four pages in length) on a related topic. Each abstract should specify how to obtain a copy of the dissertation. I have submitted an abstract of my own dissertation as an example.

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Peter Karp's suggestion is a good one, and his own dissertation abstract can be found in this issue. Moreover, he has agreed to be the coordinator for this new feature. Readers who have recently completed their doctoral dissertations should send their abstracts to Dr. Karp at the above address. —RSE

■ Editor:

I appreciated very much the Spring 1990 issue of the *AI Magazine* on robotic assembly and task planning. It seems to me, however, that some good work that has been carried out on this subject in Europe during recent years has not been covered very much.

In particular, it seems to me that the work of the University of Karlsruhe and of my company, FIAR Spa, within the ESPRIT Project No. 623, "Operational Control for Robot Systems Integration into CIM," deserves some attention.

ESPRIT Project No. 623 started in 1985 and finished in January 1990. The aim of FIAR within the project was to develop an architecture to deal with task planning for assembly robots. We developed a prototype expert system called IMPRES (IMplicit PRogramming Expert System) for off-line programming of assembly workcells with one or more robots. Although this is only a prototype, and has many limitations (especially in grasping and uncertainty handling), it has, in my opinion, some good ideas and constitutes an example of research carried out successfully in an industrial environment.

Those who are interested in knowing more about IMPRES are referred to Gallerini and Pezzinga (1990).

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References

Frommherz, B., and Werling, G. 1990. Generating Robot Action Plans by Means of an Heuristic Search. In Proceedings of the IEEE International Conference on Robotics and Automation, 884–890. Washington, D.C.: Computer Society Press

Gallerini, R., and Pezzinga, A. 1990. Optimality and Cost Considerations in the Application of Expert System Technology to Robot Scheduling Problems In Proceedings of the First International Conference on Artificial Intelligence and Expert Systems in Manufacturing, 247– 256 London: British Computer Society Specialist Group on Expert Systems.

■ Editor:

Jerome Feldman's "Essay Concerning Robotic Understanding" (*AI Magazine*, Fall 1990) shows a remarkable naivete about humans. Although he admits to some limitations on human understanding (understanding/h): "We actually use understanding/h loosely, normally excluding infants, idiots and so on. We acknowledge that there are strong limitations on the extent to which we can convey understanding/h across barriers of gender, race and culture."

If we are using understanding/h in Locke's sense, to mean reason, with all its eighteenth century freight, including the exclusion of women and blacks from the category of reasoning beings, there are, strangely enough, no barriers to this category for machines. After all, Boole later invented his logic to help mechanize the process of jurisprudence. This should help increase our expectations of our programs as judges, if not as therapists and teachers.

It is clear from other references in Feldman's essay that human biochemistry and its consequent goals, beliefs and desires play a large part in his understanding/JF of understanding/h. Analysis of the nature of understanding has not gone far enough if we neglect to consider the understanding of other beings with biochemistry, namely animals (excluded by Catholic philosophy from sentience) and plants. Early Greek philosophy even endowed rocks with a kind of awareness.

How are we to separate awareness (perhaps understanding/d) from understanding/h? If we are to consider the behavioral functions of teachers, therapists and judges, understanding/h a strong moral quality to it, hence an understanding (of any kind) of cultural values and a sympathy for those values and for other beings in the same culture. We want to be tried by a jury of our peers. We want a Supreme Court judge to share our common cultural values and behaviors. Note how knowledge of the pri-

vate life of judges, teachers and therapists affects our willingness to seek their services.

In fact, our programs already teach. They transmit understanding/d rather well, but they don't impart understanding/h. Neither, I am sure, do many human teachers. I would argue that is is not reasonable to expect humans to submit to moral judgement, teaching and therapy, until machines can take their place in our culture. It has proved very difficult for women and blacks to have such a place. Infants and animals are not judged by the same set of rules as acculturated humans and are subject to arbitrary treatment as creatures outside the law: chattels, like women and blacks until very recently. Let us not push our creation, the robot with understanding/r into an arena in which we ourselves have failed so consistently and conspicuously.

Vivienne Begg
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■ Editor:

Ms. Begg shows that understanding/VB differs from understanding/JF, but I read her letter as supporting the basic concerns raised in the essay.

Jerome Feldman
University of California at Berkeley

The following letter is from our Publishing Consultant, Mike Hamilton. The term Consultant is a synecdoche. In fact, Mike has had the primary responsibility for the production and non-article portions of our magazine (e.g., AAAI Calendar, New Products, advertising, graphics) since 1984. His letter raises some interesting issues about recycling, which I thought would be of interest to AAAI members.—RSE

■ Editor:

Several months ago we received a letter from a member requesting that we investigate alternatives to plastic for the covering on the magazine, as well as making the magazine itself recyclable using recycled materials.

I responded that these were certainly topics worthy of investigation, and that some energy would be expended in discovering the various alternatives.

Since that letter was written, there have been a plethora of articles on the subject in the trade press. Articles have appeared in *Graphic Arts Monthly, Folio, Publish, Circulation Management, Print Production, Magazine Week,* and so on. All the articles support recycling, although the suggested methods for achieving this goal differ widely.

Perhaps the most direct statement was made by *Audubon* magazine, when it announced that it will discard the polyethylene mailing wrap it has used since 1987, and switch to an ultra violet (UV) coating on its cover to prevent it from getting scuffed and scratched in the mail. While *The New Yorker, Smithsonian* and *National Geographic* recently switched from polybags to kraft wrap, *Audubon*'s editor wrote that "if a magazine is going to be environmentally conscientious, it should do without either— in a modern landfill nothing decays. Biodegrading just doesn't occur in a land-fill. So anyone who thinks that switching from a plastic wrap that weighs considerably less than a paper wrap is going to help the environment is wrong and is misleading readers."

As for recyclability, the issue is more clouded. Coated paper, such as that used in printing *AI Magazine*, presents challenges for recycling. The coating and filler content plus the ink coverage ranges up to half the total weight of the paper. Thus recovery of the fiber (the other 50%) presents problems in disposal of the gray sludge of fillers, coating, and ink.

We can, of course, switch to an uncoated paper, although doing so will require us, according to paper mill merchants I have spoken with, to purchase 40,000 pounds—a supply equal to six or seven issues of the magazine at current circulation figures.

Aside from the cash outlay for a two-year supply, such a purchase locks us in to our current printer for an equal length of time, and incurs storage charges for the paper as well. From a print management point of view, neither is a good alternative. From an ecological point of view, they are feasible.

We can also use water soluble soybean based inks in manufacturing. This will make the *Magazine* more recyclable. The inks are not as bright however, and they do smell unpleasant, especially when fresh. They are not utilized by our current printer, and it might be difficult to find a non-newsprint printer that is using them.

Making the *Magazine* recyclable, however, also mandates one other change. The glues used in perfect binding preclude recycling. Staples used in saddle stitching, however, do not. We would have to switch to the alternate form of binding, thus discarding the spine of the magazine.

The librarian in me, of course, wants to make the *Magazine* archival. That part of me cringes at the thought of discarding the *Magazine*—it should be saved! Nevertheless, I suppose that is not the reality. Many magazines are discarded. Happily, we can make the *Magazine* both archival and recyclable by choosing a paper that has a neutral or slightly alkaline pH. Since most libraries bind their periodicals anyway, the saddle stitching does not pose additional problems.

Although we can do nothing, I do think our reader has a point—landfills are inappropriate repositories for *AI Magazine* and its wrapper.

David Mike Hamilton
Live Oak Press

No decisions have yet been made, but we may experiment with different modes of wrapping and binding in the next few issues. Readers' comments and suggestions are invited. —RSE

AAAI-91
Call for Student Volunteers

Undergraduate or graduate students enrolled in a degree program at any college or university are eligible to serve as student volunteers during AAAI-91, to be held at the Anaheim Convention Center, Anaheim, California, July 14-19, 1991. In exchange for assisting AAAI staff during your volunteer shift, you will receive a complimentary technical conference registration, a copy of the AAAI-91 Conference Proceedings, and a special AAAI-91 volunteer t-shirt. Our 1991 Volunteer Coordinators, Paul O'Rorke and Michael Pazzani, can be reached by mail at AAAI, 445 Burgess Drive, Menlo Park, CA 94025, or by email at ncai@ics.uci edu. All inquiries should include your name, address, telephone, adviser's name, and email address