CSG_9009

From ???@??? Mon Sep 03 14:46:16 1990
Received: by ux1.cso.uiuc.edu id AA18933 (5.64+/IDA-1.3.4 for cziko); Sun, 2 Sep
90 16:37:23 -0500
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA18929
(5.64+/IDA-1.3.4 for g-cziko); Sun, 2 Sep 90 16:37:19 -0500
Message-Id: <9009022137.AA18929@ux1.cso.uiuc.edu>
Received: from WCUVAX1.BITNET by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 1559; Sun, 02 Sep 90 16:37:50 CDT
Date: Sun, 2 Sep 90 17:33 EDT
X-Ph: V3.2@ux1.cso.uiuc.edu
From: David McCord/Psych <MCCORD@wcuvax1.bitnet>
Subject: RE: Confirmation of Email Addresses
To: g-cziko@uiuc.edu
X-Vms-To: IN%"g-cziko@uiuc.edu"

Please do confirm that you have received email from me if you have not yet done so already.--Gary

Gary,

Received both of your messages -- with the start of the semester I have been too busy to respond -- sorry. Thanks for figuring things out so fast -- I never could get through to Rick Marken via bitnet.

Since you have been so successful thus far, what about trying to get Bill Powers a bitnet or internet access? Perhaps a friend at Northwestern or U. of Chic. would be willing to sponsor him in some way. Actually, the CSG meets the requirements of an organization entitled to use bitnet if we could arrange access via someone's mainframe.

Item #2: Bill P. will be at Western Carolina Univ. for a full-day workshop on Friday, Oct. 19th. He will be basing his workshop on his DEMO1 and DEMO2 computer programs, and he will then be giving a talk to a larger audience entitled "How we can use control theory in the life sciences." If anyone in the southeast (or elsewhere) wants to attend, they should contact me. It would also be great if CSG members in other universities would arrange for Bill to come do a presentation around the same time, so he could maximize his costs/benefit ratio. We are bringing him in through the visiting scholars program . . .

Thanks again for all your work. I look forward to meeting you.

David M. McCord, Ph.D.
Department of Psychology
Western Carolina University
Cullowhee, NC 28723
(704) 227-7361

From ???@??? Mon Sep 03 14:46:28 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA06618
(5.64+/IDA-1.3.4 for cziko); Mon, 3 Sep 90 08:29:44 -0500
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX)
with
BSMTP id 0850; Mon, 03 Sep 90 08:30:08 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 0839; Mon, 03 Sep 90 08:30:06 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 0684; Mon, 3 Sep 1990
08:30:04 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu

Received: from TBOURBON@SFAUSTIN by CP-6 BitNet Exporter B02 @SFAUSTIN;02 SEP 90
15:35:47 CDT
Received: from TBOURBON@SFAUSTIN by CP-6 MAIL Exporter B02 @SFAUSTIN;02 SEP 90 1
5:35:46 CDT
Date: 02 SEP 90 15:35:02 CDT
From: TOM BOURBON <TBOURBON@SFAUSTIN>
To: <CZIKO@vmd.cso.uiuc.edu>
X-Orig-To: CZIKO@UIUCVMD.BITNET
Subject: re CSGNET
Message-Id: <900902.15350229.025238@SFA.CP6>
Comments: Delivered Rcpt Requested

Gary,
I am a newcomer to using networks, but I can already see their benefits, in terms of establishing a sense of identity for an otherwise badly scattered group. In the few days since you helped our group get started, plans have progressed rapidly for collaborative research between Delprato and me. And Michael Hyland, a CSTer in England is a candidate for joining the network -- if I can find someone to help me interpret his return address! I can see that the net will help me in my efforts to attract additional people to the meeting next year, and to obtain funds for travel expenses for people form other countries.
Did you ever receive replies from Don Campbell and Hugh Petrie? Your effort to draw them closer to the group is a good one.
Of course, one immense gap in any network we establish will be the absence of Bill Powers. I wish there were something we could do about that.
Thanks, for taking the initiative with the network.

Tom Bourbon <TBourbon@SFAustin.BITNet>

From ???@??? Mon Sep 03 15:09:14 1990
To: David McCord/Psych <MCCORD@wcuvax1.bitnet>
From: (Gary A. Cziko) g-cziko@uiuc.edu
Subject: RE: Confirmation of Email Addresses
Cc: CSGNet
Bcc:
X-Attachments:

>
>Gary,
>
>Received both of your messages -- with the start of the semester I have
>been too busy to respond -- sorry. Thanks for figuring things out so
>fast -- I never could get through to Rick Marken via bitnet.
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>Since you have been so successful thus far, what about trying to get
>Bill Powers a bitnet or internet access? Perhaps a friend at Northwestern
>or U. of Chic. would be willing to sponsor him in some way. Actually, the
>CSG meets the requirements of an organization entitled to use bitnet if we
>could arrange access via someone's mainframe.

Since Bill is planning to move to Colorado soon, he is looking into the possibility of getting an appointment at the local college and email access. It
doesn't seem to make much sense to set something up in Illinois just to have him
move away. Since I relatively close, I could always print out important messages and mail them to him.--Gary

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>workshop on Friday, Oct. 19th. He will be basing his workshop on his
>DEMO1 and DEMO2 computer programs, and he will then be giving a
>talk to a larger audience entitled "How we can use control theory in
>the life sciences." If anyone in the southeast (or elsewhere) wants to
>attend, they should contact me. It would also be great if CSG members
>in other universities would arrange for Bill to come do a presentation
>around the same time, so he could maximize his costs/benefit ratio. We are
>bringing him in through the visiting scholars program . . .

A great idea. That is why I am forwarding this message to CSGNet.

>
>Thanks again for all your work. I look forward to meeting you.
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>David M. McCord, Ph.D.
>Department of Psychology
>Western Carolina University
>Cullowhee, NC 28723
>(704) 227-7361
>
>
>
From ???@??? Mon Sep 03 15:16:31 1990
To: TOM BOURBON <TBOURBON@SFAUSTIN>
From: (Gary A. Cziko) g-cziko@uiuc.edu
Subject: Re: re CSGNET
Cc:
Bcc:
X-Attachments:

> I am a newcomer to using networks, but I can already see their benefits,
>in terms of establishing a sense of identity for an otherwise badly
>scattered group. In the few days since you helped our group get started,
>plans have progressed rapidly for collaborative research between Delprato
>and me.

This is very rewarding news for me to hear.

>And Michael Hyland, a CSTer in England is a candidate for joining
>the network -- if I can find someone to help me interpret his return
>address!

UK email addreses often work fine as Internet addresses if you reverse the order
of the domains (e.g., joe@a.b.c should be changed to joe@c.b.a; they also drive
on the wrong side of the road).

> Did you ever receive replies from Don Campbell and Hugh Petrie? Your
>effort to draw them closer to the group is a good one.

Petrie replied positively. Campbell doesn't usually reply via email. I'm sure
he would like to be kept informed of what we do, but I don't expect to become
active in CT stuff.

> Of course, one immense gap in any network we establish will be the
>absence of Bill Powers. I wish there were something we could do about
>that.

He's hoping to get email access from the local college when he moves to Colorado
next year.--Gary

From ???@??? Mon Sep 03 15:20:35 1990
To: TOM BOURBON <TBOURBON@SFAUSTIN>
From: (Gary A. Cziko) g-cziko@uiuc.edu
Subject: Re: ADDRESSES
Cc:
Bcc:
X-Attachments:

>
>
>Can you supply Bitnet addresses for our group. Your revised lists
>include Internet addresses that we cannot presently use on our system.
>
>
Tom: You should really get on somebody's tail there to make your system interface with Internet. Internet is becoming the email address standard.

I will try to put bitnet addresses where I know them into the list.

--Gary
From ???@??? Tue Sep 04 07:13:44 1990
Received: by ux1.cso.uiuc.edu id AA08354 (5.64+/IDA-1.3.4 for cziko); Mon, 3 Sep
90 15:08:18 -0500
From: g-cziko@uiuc.edu
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA08103
(5.64+/IDA-1.3.4 for g-cziko); Mon, 3 Sep 90 15:07:52 -0500
Date: Mon, 3 Sep 90 15:07:52 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009032007.AA08103@ux1.cso.uiuc.edu>
To: MCCORD@wcuvax1.bitnet
Subject: RE: Confirmation of Email Addresses
Cc: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana-Champaign)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet

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>

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Department of Educational Psychology
1310 S. 6th Street-Room 210
Champaign, Illinois 61820-6990
USA

Telephone: 217/333-4382
FAX: 217/333-5847
Internet: g-cziko@uiuc.edu
Bitnet: cziko@uiucvmd

From ???@??? Tue Sep 04 08:08:10 1990
Received: by ux1.cso.uiuc.edu id AA03581 (5.64+/IDA-1.3.4 for cziko); Tue, 4 Sep
90 08:05:33 -0500
From: g-cziko@uiuc.edu
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA03463
(5.64+/IDA-1.3.4 for g-cziko); Tue, 4 Sep 90 08:05:04 -0500
Date: Tue, 4 Sep 90 08:05:04 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009041305.AA03463@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana-Champaign:Bitnet:cziko@uiucvmd)g-cziko@ui
uc
.edu, (DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
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(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
Subject: Bitnet vs. Internet

Tom Bourbon has informed me that he cannot presently send mail to Internet addresses as his system connects only to Bitnet. Since I can see this as a potential source of problems for our network, a few words are in order.

Bitnet is an autonomous network which is also known in Europe as EARN (although they now seem to be calling it Bitnet as well). As a separate network, only a single label is needed to identify a machine on this network. Here at Illinois, my Bitnet address is "cziko@uiucvmd." UIUCVMD

identifies a single machine on which I have an account and can receive mail.

Internet is actually a conferedation of many separate networks linked together. Not all Bitnet machines are necessarily linked to Internet (Tom Bourbon's is apparently not). Since Internet is a network of networks, more than a single label is needed to reach a given machine. My real Internet address is "g-cziko@ux1.cso.uiuc.edu", although we have a facility here which allows me to shorten this to "g-cziko@uiuc.edu" (which is what you should use to reach me). An address such as "tbourbon@sfaustin.bitnet" is actually not a legal Internet address, although most Internet machines will recognize the ".bitnet" and send the message on to Bitnet without incident. However, in the future, this may no longer work, and may not now work on some Internet machines.

Internet is clearly the way to go. But since some of us may not be able to access Internet, Bitnet addresses are also useful. Therefore, it would be helpful if I could have both Bitnet and Internet addresses from all network participants who have both addresses. I will use the Internet address to send mail if available but will include the Bitnet address with the addressees name for those of you who may be able to send only to Bitnet nodes (see my listing above).

This all boils down to the following request. If I am currently reaching you via Bitnet (you will see ".bitnet" at the end of your address above), please find out if you have an Internet address from a systems consultant and let me know what it is. If I am currently reaching you via Internet (you will see ".edu" or ".org" at the end of your address), please find out if you have a Bitnet address and let me know what it is.

If you wish to contact a CSG person on a system which you cannot reach, just send the message to me and I can forward it easily across the Bitnet/Internet boundary. Just keep in mind that I may find it hard not to take a few peeks at the message so just make sure you don't say anything too nasty about me!

Finally, you may have seen the name "Zeke" in square brackets next to my address in a previous message. I did this just to seen if the system would choke on the brackets. It didn't. But now many of you may think that this is my nickname. It isn't. Gary is just fine.--Gary

P.S. If you receive email from the UK you may have trouble responding. I've found that the address is often in reverse Internet so that if you receive a message from "joe@a.b.c", you should send a reply back via Internet to "joe@c.b.a". (They also drive on the wrong side of the road.)

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Associate Professor
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Champaign, Illinois 61820-6990
USA

Telephone: 217/333-4382
FAX: 217/333-5847
Internet: g-cziko@uiuc.edu
Bitnet: cziko@uiucvmd

From ???@??? Wed Sep 05 07:57:20 1990
Received: by ux1.cso.uiuc.edu id AA16115 (5.64+/IDA-1.3.4 for cziko); Wed, 5 Sep
90 07:45:46 -0500
From: g-cziko@uiuc.edu
Received: from mac109.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA16061
(5.64+/IDA-1.3.4 for g-cziko); Wed, 5 Sep 90 07:45:04 -0500
Date: Wed, 5 Sep 90 07:45:04 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009051245.AA16061@ux1.cso.uiuc.edu>

To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
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(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
Subject: newsletter items

>From: marken@aerospace.aero.org
>Posted-Date: Tue, 04 Sep 90 11:02:49 -0700
>X-Ph(3.1)-To: cziko@ux1.cso.uiuc.edu
>To: g-cziko@uiuc.edu
>Subject: newsletter items
>Date: Tue, 04 Sep 90 11:02:49 -0700
>
>Gary
>perhaps you could forward this to Tom Bourbon (and others) as a possible
>newsletter item. There was a request to summerize our impressions of the
>CSG meeting (I think). Since I did nothing more at the meeting than cause
>annoyance I will just try to write up a little note on what I though was
>my most annoying contribution. My concern at the meeting (which came up
>in various ways) was with the issue of "so what"; what is the use of
>control theory. So here are some thoughts on this topic for the newsletter:
>
>The Use of Control Theory
>
>My impression at the Sixth CSG meeting was that there are many reasons why
>people get attracted to control theory. Some (like myself) see it as a
>lovely framework for developing models of behavior. Others see it as a
>framework for understanding and solving personal problems. Still others see
>it as a way to save the world. The different attractions of control theory
>imply different views of its usefulness. Behavior modelers tend to see the
>usefulness of control theory in terms of understanding: it helps us
understand
>the nature of living (purposive) systems. The most conventionally practical
use
>of this work that I can think of is in robotics: control theory should help
>us design more lifelike artificats. Whether or not this is a "good" use of
>the theory is left as an exercise. Non-behavior modelers tend to be classes
>d as "clinicians". They tend to see the usefulness of control theory in terms
>of solving human problems. The theory is used as a basis for taking
particular
>practical steps in a clinical interaction. My only problem with this "use" of
>control theory is that it can become an exercise in verbal justification
>rather than modeling. If there is one thing that control theory teachs us
>it is that people are extremely good at producing consistent ends using
>unreliable means. It seems to me that clinicians of all persuasions are able
>to produce relatively consistent ends (call it"help") using rather unreliable
>methods. A skilled clinician helps his or her client; this is what clinical
>practice is about. The methods used to achieve these results are probably
>fairly similar although they are perceived as being quite different. Perhaps
>they are different but they all seem to work to about the same degree (I
claim).
>This is why all clinical approaches -- freudian, jungian, reality therapy,
>rational emotive, control theory, or what ever -- have many adherents. They
all
>work
>because their practitioners are control systems and they are able to produce
>the perceptions of their clients' behavior that they want to perceive. So I

>am skeptical of claims that a particular theraputic (or management) approach
>to getting results is better than another. It tends to turn into a publicity
>game on the order of "my diet is better than yours". This approach leads to
>fads (which can be long lasting) but not necessarily progress.
>
>There are modelers and clinicians who think control theory can save the world.
>I am a modeler member of this group. I believe that control theory could be of
>use in helping people (in general) live better lives. But I have no idea how
>to make this usefulness manifest other than through science -- the dogged attempt
>to show that people are, indeed, organized as input control systems. I guess
>I am working towards getting control theory to be the new "dogma" in the life
>sciences. If this organizing principle were accepted by the scientists it might
>eventually seep into the lay understanding-- my trickle down theory of knowledge.
>It did happen in astronomy where the heliocentric model is accepted (agaist most
>good evidence) by the masses.
>
>I enjoyed seeing everyone at the meeting. I hope to see you all again next year.
>
>----
>That's it Gary. Hope this gets to you. It's a but rampling but, hell, its the
>CSG newletter an I don't know how to use the editor on this thing.
>
>Best to you.
>
>Rick
>
>

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USA

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FAX: 217/333-5847
Internet: g-cziko@uiuc.edu
Bitnet: cziko@uiucvmd

From ???@??? Thu Sep 06 09:18:59 1990
Received: by ux1.cso.uiuc.edu id AA03240 (5.64+/IDA-1.3.4 for cziko); Thu, 6 Sep
90 08:59:50 -0500
Received: from mac99.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA03183
(5.64+/IDA-1.3.4 for g-cziko); Thu, 6 Sep 90 08:59:23 -0500
Date: Thu, 6 Sep 90 08:59:23 -0500
Message-Id: <9009061359.AA03183@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
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(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: more mail

Gary
Thanks for posting my article. It was so much fun to get mail (even if it was from myself) that I would like to encourage everyone in this little mail network to reply to my posting or post their own stuff so that we can get a dialog going. Since these postings are saved, at least temporarily, we
are not just shouting into the bit bucket. If everyone (or at least a good number of us) participates we should have a pretty good supply of mail each day -- and the good kind, not bills.

Thanks again, Gary, for starting this network.

Best regards

Rick

From ???@??? Thu Sep 06 09:19:01 1990
Received: by ux1.cso.uiuc.edu id AA05732 (5.64+/IDA-1.3.4 for cziko); Thu, 6 Sep
90 09:13:58 -0500
From: g-cziko@uiuc.edu
Received: from mac99.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA05675 (5.64+/IDA-1.3.4 for g-cziko); Thu, 6 Sep 90 09:13:34 -0500
Date: Thu, 6 Sep 90 09:13:34 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009061413.AA05675@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
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(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
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Subject: Re: Reply to Marken

>Non-behavior modelers tend to be classes
>d as "clinicians". They tend to see the usefulness of control theory in terms >of solving human problems. The theory is used as a basis for taking particular
>practical steps in a clinical interaction. My only problem with this "use" of >control theory is that it can become an exercise in verbal justification >rather than modeling. If there is one thing that control theory teachs us >it is that people are extremely good at producing consistent ends using >unreliable means. It seems to me that clinicians of all persuasions are able >to produce relatively consistent ends (call it"help") using rather unreliable >methods. A skilled clinician helps his or her client; this is what clinical >practice is about. The methods used to achieve these results are probably >fairly similar although they are perceived as being quite different. Perhaps >they are different but they all seem to work to about the same degree (I claim).
>This is why all clinical approaches -- freudian, jungian, reality therapy, >rational emotive, control theory, or what ever -- have many adherents. They all
>work
>because their practitioners are control systems and they are able to produce >the perceptions of their clients' behavior that they want to perceive. So I >am skeptical of claims that a particular theraputic (or management) approach >to getting results is better than another. It tends to turn into a publicity

>game on the order of "my diet is better than yours". This approach leads to
>fads (which can be long lasting) but not necessarily progress.
>

Rick:

This gets into the old issue of the demarcation of science from non-science.

Popper says that if it isn't falsifiable, it can't be science. You must be even able to state before hand what type of evidence would cause you to reject your theory or hypothesis. When I asked Powers about this he said without hesistation that if it could be shown that an organism could have a regular effect on a portion of the environment that was subject to disturbances WITHOUT feedback, then control theory was wrong. I wonder what the clinicians could offer in this regard (although nobody ever said clinicians have to be scientists).

In fact, to make his point, Popper often emphasized the difference between the falsifiability of Einstein's science with the unfalsifiability of Freud's pseudoscience of psychotherapy.

How 'bout hearing from some of the clinical types on the network?

--Gary

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From ???@??? Thu Sep 06 11:36:27 1990
Received: from garcon.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA24232
(5.64+/IDA-1.3.4 for cziko); Thu, 6 Sep 90 10:57:02 -0500
Received: by garcon.cso.uiuc.edu id AA11782 (5.64+/IDA-1.3.3 for
cziko@ux1.cso.uiuc.edu); Thu, 6 Sep 90 10:56:07 -0500
From: marken@aerospace.aero.org
Received: from aerospace.aero.org by garcon.cso.uiuc.edu with SMTP id AA11776
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Message-Id: <9009061554.AA09282@aerospace.aero.org>
X-Ph(3.1)-To: cziko@ux1.cso.uiuc.edu
To: g-cziko@uiuc.edu
Subject: reply(reply marken)
Date: Thu, 06 Sep 90 08:54:17 -0700

Gary:
First, some technical questions. I am doing this e-mail stuff in a unix environment. Do you know how to 1) add a signiture file to my postings 2) include the segments of mail I respond to into my posts? Are these things machine specific? Should I ask my system person or are there some standard unix e-mail commands for doing this stuff?

Now, to substance. I heartily agree with Popper about falsifiability. It ain't science unless its falisifiable and it probably ain't clearly falsifiable if it's not a working model. I agree with Powers that a demonstrable instance of control without perception of the controlled variable would be an observation that falsifies the control model. I think such a gross falsification is unlikely. More likely are falsifications of specific predictions of more detailed developments of model. The falsifi-

cation example Powers gives imples that the alternative to control is some kind of stimulus-response model. This is almost certainly not true. It's like imagining that falsification of the evolutionary model (to the extent that it is a model) would support a creationist model. Such falsificatoin is possible; finding human fossils amongst dinosaur fossils would certainly be like finding an example of non-feedback based control. But what will really happen is that details of the current evolutionary (or control) model will be falsified, leading to development of an improved model -- one that can handle the data of the old model as well as the new data. I think this is starting to happen with the evolutionary model; I am sure that it will be necessary change the "natural selection" model to include a mechanism that detects "chronic" maladaptation and leads to an increased rate of random mutation. There might also need to be a mechaism to account for the remarkable statis in form during the eons of successful adaptation; organisms seem to change less than one might expect over millions of years, until there is a rather sudden change (the punctuations inthe equilibria).

Anyway, yes, one of the beauties of control theory is that it is a falsifiable model. So is the stimulus-response model, to the extent that we can formulate it as a model. It is interesting, though, that the many experiments we have done
to falsify versions of s-r models are not considered falsifications by the behavioral science community. But the behavioral science community has tried to present evidence of falsification of the control model. It might be worthwhile to examine these "falsifications" since they are the reason why behavioral
scientists of many persuations think of control theory as a dead horse rather than a new approach to understanding human nature. Off the top of my head I can thing of a couple lines of evidence that are cited as falsification of the general relevence of control theory to behavior. They are:
1) evidence that deafferented animals can still produce controlled results
2) evidence that subjects can reach goals even though deprived of feedback during the time between the start of behavior and the reaching of the goal.

There may be others but I can't think of it now. It's not much but, indeed, one counter example should be enough to falsify the model. The deafferentiation
stuff is probably the most directly relevant to Powers falsification test (and the most cruel to animals). I think some effort directed at showing that this deafferentiation work is wrong (which it is) would go a long way to getting behavioral scientists to take control theory seriously and save a lot of animals from rather grisly operations.

Best regards
Rick

From ???@??? Fri Sep 07 08:09:48 1990
To: marken@aerospace.aero.org
From: (Gary A. Cziko) g-cziko@uiuc.edu
Subject: Re: reply(reply marken)
Cc:
Bcc:
X-Attachments:

Rick:

Now to your substance.

>I heartily agree with Popper about falsifiability. It
>ain't science unless its falisifiable and it probably ain't clearly
>falsifiable if it's not a working model. I agree with Powers that a
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>really happen is that details of the current evolutionary (or control) model
>will be falsified, leading to development of an improved model -- one that
>can handle the data of the old model as well as the new data.

Yes, this seems reasonable. Remember, that according to Popper, no theory can ever be proven or justified. As for rejecting control theory for S-R, anyone who takes a serious look at the phenomenon of behavior as well as the research would have to say the S-R has already been falsified.

>I think this
>is starting to happen with the evolutionary model; I am sure that it will
>be necessary change the "natural selection" model to include a mechanism
>that detects "chronic" maladaptation and leads to an increased rate of
>random mutation. There might also need to be a mechaism to account for the
>remarkable statis in form during the eons of successful adaptation; organisms
>seem to change less than one might expect over millions of years, until there
>is a rather sudden change (the punctuations inthe equilibria).

Recent research suggests that this is indeed the case. Cairns and others are finding that E. coli increases its mutation rate when it is placed in an environment in which includes nutrients it cannot assimilate. As it starves, it
mutates at an increased rate. But I don't think any of the biologists know anything about control theory to appreciate this finding. In fact, I just emailed our big shot biologist here (Carl Woese, Macarthur "genius award" winner)
about this yesterday. I wonder what type of response I'll get.

(My goodness, as I typed these words my computer pulled down another message from the mainframe and there was Carl Woese. This email stuff is fantastic. His address is "c-woese@uiuc.edu". I'll try to remember to blind carbon copy you for any interesing email I have with him. This is what he says:

>>I myself do not know of any applications of cybernetic control
>>theory to evolution. The parallel you draw to the recent
>>"directed" mutation studies is intriguing. I you wish we
>>could discuss evolution some time. Perhaps there are facts
>>useful to you tucked away in my mind.
>>
>> Carl Woese

>Anyway, yes, one of the beauties of control theory is that it is a falsifiable
>model. So is the stimulus-response model, to the extent that we can formulate
>it as a model. It is interesting, though, that the many experiments we have done
>to falsify versions of s-r models are not considered falsifications by the
>behavioral science community. But the behavioral science community has tried
>to present evidence of falsification of the control model. It might be worthwhile
>to examine these "falsifications" since they are the reason why behavioral
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>I can thing of a couple lines of evidence that are cited as falsification
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>
>There may be others but I can't think of it now. It's not much but, indeed,
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>stuff is probably the most directly relevant to Powers falsification test (and
>the most cruel to animals). I think some effort directed at showing that this
>deafferentiation work is wrong (which it is) would go a long way to getting
>behavioral scientists to take control theory seriously and save a lot of
>animals from rather grisly operations.

I find this very interesting. Note, however, that in essence we are no different from the S-R people. When counter evidence is offered, we find reasons to discount the evidence. I'm not saying we are just as wrong as they are, but the protection of one's own theory is pretty basic.

Popper says (here I go again), that we should not do research to prove our theories but to falsify them. If they withstand the falsification, then they look better and better, but can never be considered true or justified. Let's think of all sorts of ingenious ways to refute control theory. Our failures will then be our successes!--Gary

From ???@??? Fri Sep 07 13:05:56 1990
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Message-Id: <9009071727.AA06707@aerospace.aero.org>
X-Ph(3.1)-To: cziko@ux1.cso.uiuc.edu
To: g-cziko@uiuc.edu
Subject: falsificaton & evolution
Date: Fri, 07 Sep 90 10:27:40 -0700

Gary
Are you sending this stuff out to others on the net? If so, I hope some of you will join in some time.

On falsification:
Yes,S-R theory can be considered falsified as a model of purposeful behavior (i.e. control) but it hangs on, I think, because psychological theorists and researchers don't study control because they don't know what it is (this has been one of my themes for a couple of years now).

I think control theorists who do modeling are always exposing the theory to falsification. If people don't behave as the model predicts then the model is falsified. I think the importance of modeling is that it provides the clearest way of exposing ideas to falsification. I mean working models here -- where the behavior of the model can be compared, in detail, to the behavior of the system being modeled. The fact that working models are used so little in the behavioral sciences has contributed to the fact that false explanatory constructs (like reinforcement) have not been abandoned. When you try to build a working model of a reinforcement based system you find that 1) it can't be built or 2) it doesn't behave anything like the system being modeled.

I believe that the demand that behavioral concepts be implemented as working models is perhaps the strongest contribution of control theory to the behavioral sciences. I think a case can be made for the idea that

falsification is not really possible unless you have a model of the system you are trying to understand. Ultimately, what is falsified is a model. A poorly formulated, vague or descriptive "model" can always weasal out of disconfirming evidence. A working model stands naked before the light of experience.

Now, to evolution. Since we have a real biologist listening, I'd like to propose a model of evolution based on control theory. Well, its not really a model but a start at one. The basic component of the model is a "meta" reorganizing system. I think of it as a "reference code" in every dna strand in the body that detects how the body is overall dealing with its ultimate survival requirements. Error in this "meta" reorganizing system increases the probability of a"mutation". A mutationcan happen in any cell at any point in dna strand. The mutations are, indeed, random. Error in the "meta" system just inceases the probability of a mutation. In a population of organisms. "meta" error will generally increases when the environment becomes significantly inhospitable. Thus, a hostile environment should increase the rate of mutation in the population. This is basically what Cairns found. I don't believe that there is any increase in the tendency for "helpful" mutations to occur; the system cannot possibly know what these would be. All that is happening is more mutations; providing more material for environmental selection. When a few "helpful" mutations do occur, these organisms become more prevalent and the mutation rate in these organisms should decrease (because there is less "meta" error in them). So the rate of mutation should decrease as helpful mutations become more prevalent. There is no "direction" to the mutation process; I think all you need is an increased rate of random mutation as a result of environmental stress.

What this model should produce, I think, are periods of relatively stable morphology (when the organsism are able to deal with the enviornment as is) puntuated by periods of relatively sudden change (when, due to environmentalchange, including change in competing organisms, the mutation rate
increased andthere was, thus, a major change in the population morphology that adapts them
to the new enviroment. This model is consistent, of course, with the observed "punctuated equilibrium" appearance of the fossil record.

An important implication of this model is that certain kinds of adaptations to environmmental change are really not evolutionary; they are more like the response to a disturbance during ordinary control. An example is the change in color of the moths in england. This was in response to a change in the environment (the amount of soot on buildings) that the moths could adapt to (as a population) without mutation. When there was a lot of soot the brown moths prevailed by good old natural selection; they were less visable to predators. When the soot was cleaned up the light moths predominated for the same reason. But the genes for variations in coloration that could deal with this disturance already existed in the population. So here is no real change in the moths and I agree with some anti-evolutionists that this kind of phenotypic change cannot produce speciation-- ie, a new kind of moth or something different than a moth. This kind of genetic drift adaptation is like control with an existing control system; the genetic variation is the control mechanism. I see it as analogous to having a car driving control system in place; once you do, you can deal with disturnbances such as drafts and frictional forces that you have never experienced. Real evolution is like build
ing a new control system. This would happen if someone suddenly reversed the polarity of the steering wheel. This requires building (or switching to) a completely new control system. This is what would happen to the moth if the environment suddently became filled with perdators that were color blind but could detect the moths by their infrared emissions. The moths would start to be
decimated; somehow this would have to be "detected" by the meta control system

and translate into an increased mutation rate. I think decimation would lead to things like difficulty finding mates. This could translate into chronic intrinsic error that could produce chemical side effects that are detected by the meta system and turned into increased mutation rate.

It would be interesting to develope this model with a real biologist present; it seems to contact some of the "hot" topics in evolutionary biology-- puntuated equilibrium, stress induced mutation, speciation

Have a great weekend. I've got to getback to my real work.

Best regards

Rick

From ???@??? Thu Sep 13 08:13:11 1990
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From: g-cziko@uiuc.edu
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Date: Thu, 13 Sep 90 08:10:11 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009131310.AA11741@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
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Subject: Re: hello

>Gary--
>Don't any of the other CSG folks post? Any response to last weeks epic of
>mine? Do I have to go back to work?
>Best Regards
>Rick

Rick: Perhaps everybody else is too busy working already! Clark McPhail told me he had something to contribute from a Batesonian perspective, but he hasn't acted yet. Perhaps this note will get him moving.

I did get to see Carl Woese, this campus's most well-known biologists who discovered a third form a life a while back (no, not college sophomores). He was quite receptive to the idea of a control-theoretic view of evolution with the rate of mutation influenced by stresses from the environment. This would be consistent with many current findings. But he added that he is not into evolutionary theory per se, but directed me to another faculty member who is. I hope to see him soon and pursue this.

Let's hope we can get some others on CSGNet to join in. The network is just sitting there waiting to be used, AND IT'S FREE!--Gary

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From ???@??? Thu Sep 13 13:57:42 1990
Received: by ux1.cso.uiuc.edu id AA07767 (5.64+/IDA-1.3.4 for cziko); Thu, 13 Sep 90 13:55:54 -0500
From: g-cziko@uiuc.edu
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Date: Thu, 13 Sep 90 13:55:47 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009131855.AA07675@ux1.cso.uiuc.edu>
To:
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu
Subject: Bourbon deafferentiation, etc.

>X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
>Date: 13 SEP 90 11:37:05 CDT
>From: TOM BOURBON <TBOURBON@SFAUSTIN>
>To: <CZIKO@vmd.cso.uiuc.edu>
>X-Orig-To: CZIKO@UIUCVMD.BITNET
>Subject: FOR CSGNET
>Comments: Please Acknowledge Reception,Delivered Rcpt Requested
>
>Rick -- Gary -- ?,
> Concerning falsifiability, deafferentiation and the role of
>feedback in behavior... . The facts that emerge from studies of
>deafferented animals, and the assertions in the cognitive-
>neuropsychological literature concerning deafferented animals,
>are two different subjects. Before I throw up my hands and declare
>that deafferented animals indeed produce reliable control of
>variables that they controlled before surgery -- and before
>intensive care during recovery -- and before extensive "prompting,"
>that is not considered to be feedback -- and before the experimenters
>changed their criteria for what would count as production of the
>same results -- well, the issue is not as clear as it looks in the
>writing of the cognitive-neuro-psychological-philosophical community.
>A lot happens after the surgery, and a lot happens before the animals
>"perform as they did before," and all of the original research
>literature acknowledges and describes those facts. The rush to
>distort the literature into a proof of the universality and
>superiority of motor plans as the cause of coordinated behavior looks
>a bit like the earlier exaggerations that led to the "Little Albert"
>studies (Watson and Rayner, on "conditioned fear in infants) serving
>as "proof" that all behavior is under stimulus control from the
>environment. Most people are unaware of the "incidental observations," at the
en
>d of the Little Albert paper: in the beginning of the study, the kid
>did not cry when exposed to loud noise: he was selected precisely
>because he did not do such things. Instead, he stuck his thumb in his
> mouth and looked around. Watson and Rayner described this as an example
>of how a "love stimulus" (yes, the Freudian allusion was intended) could
>overcome the fear-eliciting power of the noise. Of course, the love
>stimulus was self-administered, in an obvious and effective attempt at
>control by Albert! So what did Watson and Rayner do, but pull his
>thumb from his mouth, make loud noises and talk about how loud noises control
emotions.

> The point of this discourse is that it pays to look at the
>original literature! Decades of articles, textbooks and
>scholarly works in the behavioral sciences presented (and
>some still present) the Little Albert work as something
>different from what it was. So, too, with many citations
>of the research ojn deafferented animals.

>
>Tom Bourbon <TBourbon@SFAustin.BITNet>
>
>

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From ???@??? Fri Sep 14 08:04:48 1990
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Date: Fri, 14 Sep 90 08:01:16 -0500
Message-Id: <9009141301.AA16785@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
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(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: CSGnet - Deafferentiaion

AH. At last, signs of life at the other nodes.
Hi Tom.
I agree, of course, that the deafferentiation stuff is trash. But people assume that the claims are true -- behavior can occur without feedback. Of course, behavior can (apples fall without feedback) but control can't; at least it shouldn't if control theory is correct. I think some of us should get together and write an article (perhaps using the CSGnet as a start) which takes apart all the research that purports to show purposeful behavior occuring w/o feedback. I think we should get some help from those who know the physics and math (like Bill P. and Greg W.) since muchof this stuff (like the non-linear dynamics crap and Bizzi's open loop models) gets pretty hairy for me. The point of the article would be that the psychology of behavior got off on the wrong track when it interpreted studies like deafferentiation as showing control without feedback. Control theory says it's all feedback. And we see no evidence that this is not the case.

Nice to hear from you, Tom. Talk to you soon.

Regards

Rick

From ???@??? Fri Sep 14 12:10:46 1990
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Message-Id: <9009141707.AA18509@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: RLPSYU08 <TBOURBON@SFAUSTIN> (by way of (Gary A. Cziko)
g-cziko@uiuc.edu)
Subject: DEAFF. AND CONTROL

CSGNET,

HI, RICK. Finally, a way to get through to people on .ARPA, in spite of my being trapped at a bastard node on the network!

I think a co-authored piece that critiques the work on "behavior without feedback" would be a valuable addition to the literature. Of course, K.U. Smith and his collaborators produced decades of research that demonstrate, empirically, the disruptions in behavior that occur when feedback is distorted, delayed or eliminated. But his group never developed a predictive model of feedback (and they never used, or acknowledged CST).

A student here just completed a project in which he compared tracking performance when people could see everything that is usually on the screen, and when various aspects of the task were not visible. All of us know the results -- they are trivially obvious. But this guy was trying to convince the people at the hospital where he was doing a clinical practicum. All of the physical therapists, the physiatrists and others KNEW that feedback was not necessary for the production of coordinated behavior -- they were taught that it isn't; the workshops they attend all repeat that idea; and the literature they read clearly declares it to be true. When the student tried to develop strategies, using carefully selected "feedback," to help various clients, he was dumped on.

So, I see a second crying need for addressing the deafferentiation literature. I share your disgust at the continued needless maiming of animals. And I feel equal disgust that professionals who desire to assist the disabled are taught that feedback is not necessary for normal behavior and that if they try to use the principles of feedback control, they will harm their clients. Enough, already!

Let's do it.

Tom Bourbon <TBourbon@SFAustin.BITNet>

P.S. from Gary Cziko: Let's welcome Joe McGrath to the system. He is a friend, collaborator, and co-author of/with Phil Runkel. At last I've seen to have found another psychologist at my own institution that I can talk to!

From ???@??? Sat Sep 15 10:24:30 1990
Received: by ux1.cso.uiuc.edu id AA04284 (5.64+/IDA-1.3.4 for cziko); Sat, 15 Sep 90 10:22:44 -0500
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA04239 (5.64+/IDA-1.3.4 for j-mcgrath); Sat, 15 Sep 90 10:22:01 -0500
Date: Sat, 15 Sep 90 10:22:01 -0500
Message-Id: <9009151522.AA04239@ux1.cso.uiuc.edu>

X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: Dennis_Delprato@um.cc.umich.edu (by way of (Gary A. Cziko)
g-cziko@uiuc.edu)
Subject: CSGnet - Behavior in Absence of Feedback

REALLY FROM Dennis <DELPRATO@UM.CC.UMICH.EDU>

A few cents worth on feedback-less behavior:

Tom, your student must have asked the clowns at the clinical practicum facility if they were prepared to negotiate their way home blindfolded. Or are they still developing the motor program? Really, this ignorance, or some even more powerful descriptor, of the role of feedback is confusing. I know one can talk their way out of the the above homey challenge, but there also is all this casual talk about simple "feedback," such as "Give me some feedback" and "We have to give workers feedback." Certainly, these statement do not imply CST; however, neither do they imply mere ballistic action. And it seems that a fair amount of people do not find them heretic. So why all the resistance to feedback control? One source seems to be the aura of science applied to ill-conceived "scientific experiments." I.e., good fashioned conservative processes keeping tradition in force and no one the wiser.

This issue nicely brings up the need for the two major interest groups in behavioral feedback control to work together. The Smith group has the first job of continuing to examine the mere questin of feedback control vs. the alternative. The CST group doesn't have to wait until the first verdict is in, but can push it along and take feedback control more into real science via the modeling strategy. The Smiths' work in the behavioral area is comparable to research in physiology that is continuing to expand the boundaries of feedback control in the latter field. A great deal of non-modeling work remains, although eventually a point will be reached to where the only progress will be based on the elaboration and testing of feedback-control models.

For some time, I have thought of how our field needs a paper that forthrightly addresses the hoary notion of feedback-less behavior. Go to it! You might want to contact Tom Smith, as he seems to be very much on top of the research on this issue. Last year, in the format of a letter, he sent me what I refer to as a tutorial on feedback regulation of motoric action. Some of you might be interested in one point: He argued that one article (Fournier & Pierrot-Deseilligny--I can get complet ref. if any one is interested & unfamiliar with it) showed that there is variable gain in motor control, even at the spinal reflex level.

IN a phone call, Tom gave me the low down on how it is totally inappropriate to infer that curare blocks all skeletal activity.

Take a look at K. U.'s <Behavioral-Physiological Foundation of Human Development> (avail. from Centre for Distance Educ., School of Kinesiology, Simon Fraser). Note how he summarizes feedback regulation even at teh level of the cell.

If one thinks that feedback control is well accepted, one should look at the recent 2-vol. Handbook of Exper. Psychol. Feedback? What's that?

I suggest that one factor in resistance to feedback control is the historical tie closed-loop feedback has had to the peripheral in the old dualistic central-peripheral debate. Here the peripheral is taken as merely mechanical, not really getting at the essence of psychological, etc.

From ???@??? Mon Sep 17 11:10:26 1990
Received: by ux1.cso.uiuc.edu id AA13501 (5.64+/IDA-1.3.4 for cziko); Mon, 17 Sep 90 11:08:43 -0500
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA13465 (5.64+/IDA-1.3.4 for j-mcgrath); Mon, 17 Sep 90 11:08:11 -0500
Date: Mon, 17 Sep 90 11:08:11 -0500
Message-Id: <9009171608.AA13465@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet, (CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet, (CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu, (DEACON_Keith)kdeacon@inetg1.arco.com, (DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu, (HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet, (MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org, (MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet, (MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu, (MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet, (PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu, (TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: Network Mailer <MAILER@UNIVSCVM> (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: from Chuck Tucker

Dear CSGNET,

Glad to see McGrath on the net and hope he enjoys these conversations.

I have all of the messages from the net printed but only will answer those wherein I think I can make a contribution. The point is: i am not ignoring you
-all (or ya-all) just getting involed where I can be of assistance.

Glad to see Dennis's note so i won't have to write one like it. I encourage
those who wish to begin a paper on this question. I will contribute where I can
but won't step too far outside my area of knowledge. So go to it folks I'll be
reading. [I find it easier to you my REPLY function to answer if that is a problem let me know, Gary]

I strongly recommend Phil's new book for everyone. I am sorry that we could
not have discussed it when we were at the meeting. His approach is very pragmatic (in the Dewey sense of this word) and very useful for the students
who are puzzled about the quanity vs. quality argument (which is more in sociology than in psychology). I would also recommend a book mentioned by

Phil - Paul Feyerabend's AGAINST METHOD 1988 - it is good. This last one takes on the issue of falsifiability direct and shows (to me) how silly all such "you have to do this or not be a science" rules are. Enjoy.

Finally, I have a suggestion about getting these books in the hands of others-
have bookstores order them. I told my local bookstore owner that I was telling
people about Bill's book and he should have some copies - so he ordered it! He is in business to sell books so why not. I have told several people about
the book and bookstore. Try this with any book you wish to have others buy or just have on the shelf so someone my find it. I should work.

I have to go to class now. Regard, Chuck

From ???@??? Tue Sep 18 07:22:24 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA24919 (5.64+/IDA-1.3.4 for cziko); Mon, 17 Sep 90 12:09:46 -0500
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 1536; Mon, 17 Sep 90 12:10:06 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id 1534; Mon, 17 Sep 90 12:10:05 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 1423; Mon, 17 Sep 1990
12:10:03 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from TBOURBON@SFAUSTIN by CP-6 BitNet Exporter B02 @SFAUSTIN;17 SEP 90
12:03:57 CDT
Received: from TBOURBON@SFAUSTIN by CP-6 MAIL Exporter B02 @SFAUSTIN;17 SEP 90 1
2:03:56 CDT
Date: 17 SEP 90 12:03:04 CDT
From: RLPSYU08 <TBOURBON@SFAUSTIN>
To: <CZIKO@vmd.cso.uiuc.edu>
X-Orig-To: CZIKO@UIUCVMD.BITNET
Subject: FOR K.DEACON
Message-Id: <900917.12030256.031843@SFA.CP6>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested

Gary,
Please forward the following to Keith Deacon.
Keith,
No, I did not mean to imply that I can go directly to ARPA -- you should know better! But I do have a route through Gary, at U. of Illinois. That is better than nothing, I guess. And, who knows, some day we may be functional here. For the time being, I can't even dial up the university system from home. This is probaly the only site in the free world where the new computer system has far less capability than the former (less-than-adequate) system! Registration was a joke, with huge delays, because the new system was so much slower than the old one -- you guessed it!
Have you done anything else with the Lego-cycle? Or with the conversion of Crowds to the Mac? (I'm sure you have all the free time in the world -- just like those of us at schools like SFA, now that the new year is under way. It would be nice if people who are serious about working on CST could stay together for a while and keep working. A few of us will be getting together at the Powers', next month, to spend a few days working.)
Let me know how you are doing.

Tom Bourbon <TBourbon@SFAustin.BITNet>

From ???@??? Tue Sep 18 07:54:05 1990
Received: by ux1.cso.uiuc.edu id AA24778 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 07:35:53 -0500
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA24638 (5.64+/IDA-1.3.4 for j-mcgrath); Tue, 18 Sep 90 07:35:16 -0500
Date: Tue, 18 Sep 90 07:35:16 -0500
Message-Id: <9009181235.AA24638@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: Network Mailer <MAILER@UNIVSCVM> (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: Undelivered mail

Dear CSGNET,

Got the note but some of the lines were off line and I did not correct my errors but I guess that control people are familiar with errors.

By the way. Today in class the students wanted to know the difference between input and output and which activities were which. I found the presentation of Runkel on linear causation vs. circular causation to be quite handy and seemed to be understood. I did not do my demonstration (which helps to explain) but it is amazing how people have such difficulty realizing that they are controlling for input. Same old story.

Now for another meeting.

Chuck

From ???@??? Tue Sep 18 08:04:16 1990
Received: by ux1.cso.uiuc.edu id AA26737 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 07:54:45 -0500
From: g-cziko@uiuc.edu
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA26669 (5.64+/IDA-1.3.4 for j-mcgrath); Tue, 18 Sep 90 07:54:16 -0500
Date: Tue, 18 Sep 90 07:54:16 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009181254.AA26669@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,

(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
Subject: Chaos and Feedback

CSGnet:

The phenomenon of chaos, i.e, sensitive dependence on initial conditions (also known as the Butterfly Effect in the Gleick _Chaos_) provides another argument why continuous feedback is needed for behavior.

An example: Even with very accurate information concerning the initial direction and velocity of a billiard ball (along with highly accurate information about the billiard table) there is no way to know where the ball will be after 10 bounces or so. Two balls which differ in their initial conditions by an infinitesimal amount will ultimately take completely different paths. I assume that human behavior is as least as complicated as billiard balls.

If this is the case, the only possible way to achieve some goal is through constant feedback and error correction. I think that from this perspective it is not even necessary to talk about disturbances since even with no disturbances motor plans still cannot work over any reasonable length of time. Throw disturbances in and feedback is even "more" necessary.

So chaos is the reason that we cannot drive home blindfolded, even if the streets are cleared of other cars and pedestrians and the weather, road surfaces, and car characteristics never change. Violate these latter conditions (i.e., introduce disturbances) and it becomes even more absurd to drive home without peeking through the windshield.

For what appears to be shaping up as the Bourbon & Marken paper on the impossibility of behavior without feedback, I would be willing to add my 2 cents concerning chaos and related issues if that were desired.

--Gary

P.S. Rocketry provides a nice of example of the advances brought about by control systems. The initial German V-2 rockets were programmed by the amount of fuel they carried. When the fuel ran out, they simply dropped out of the sky, hopefully (from the designers' point of view) on London. No feedback here. The early space shots had mid-course corrections (even Newton can only be trusted so far without feedback). This provided some accuracy in obtaining the desired orbit, but with quite a large margin of error. This is clunky feedback but better than nothing. Now, as I understand it, modern rockets and the space perform "mid-course" corrections about 30 times a second. That's feedback! They've even developed a jet fighter (is it the X-1?) which is inherently unstable and impossible to fly without very sensitive control systems. I'm sure that Rick Marken at Aerospace can tell us more about this.

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From ???@??? Tue Sep 18 13:02:49 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA00115 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 11:32:35 -0500
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BSMTP id 8185; Tue, 18 Sep 90 11:32:55 CDT

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Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 8135; Tue, 18 Sep 1990
09:10:02 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Date: Tue, 18 Sep 90 09:03 CDT
To: CZIKO@uiucvmd.bitnet
From: TJ0WAH1@niu.bitnet
Subject: TRIAL RUN

GARY:
I GOT YOUR MESSAGE. EVENTUALLY. YOU SENT IT MON., 8/19?
IT ARRIVED HERE TUES., 8/20.
HERE ARE TWO NAMES (OF FORMER STUDENTS) TO ADD TO THE LIST:
CARPENTER, DAVE (ST. BONAVENTURE U.): DCARP@SBU.EDU
CLELAND, JERRY (BARAT COLLEGE): LMA01@LUCCPUA
THANKS, WAYNE

GARY:
I MAILED THE ABOVE MESSAGE TO YOU 8/23, BUT IT DIDN'T GET
DELIVERED. I'LL TRY AGAIN TODAY, 9/18. PLEASE LET ME KNOW IF
YOU GET THIS.
THANKS, WAYNE

PS: I AM GETTING YOUR BROADCASTS (18 SO FAR)

From ???@??? Tue Sep 18 13:17:38 1990
Received: by ux1.cso.uiuc.edu id AA23698 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 13:15:46 -0500
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA23289 (5.64+/IDA-1.3.4 for j-mcgrath); Tue, 18 Sep 90 13:14:37 -0500
Date: Tue, 18 Sep 90 13:14:37 -0500
Message-Id: <9009181814.AA23289@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)$l$ma01@luccpua.bitnet,
(CLELAND_Dave:_St_Bonaventure_U)dcarp@sbu.edu,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: CSGnet-thoughts

Thanks Gary for excellent thougts on Chaos. I'm afraid I actually don't know
that much about the details of insertion into orbit but there is, indeed, constant monitoring of the satellites. Even while in orbit, when the should just be obeying Newton's laws, there is the need fro constant adjustments to the
orbits: the satellites are montitored constantly. I was amazed to find how non-ballistic and closed loop is satellite control.

ALso, hi to Chuck. Welcome to CSGnet.

Actually, I'm writing today because I just received a rejection from

Psychological Science on my paper "Degrees of freedom in behavior" which is about two-dimensional coordination by independent control systems. The reviewers liked the paper and Estes (the editor) liked it. But it was rejected, I think, because control theory is no longer "state of the art" (the expression actually used by one of the reviewers). It appears that psychological science is now based on finding the theory that seems the most sexy, complicated or hip; ie its a popularity contest and, I'm afraid that control theory is just no longer cool.

Actually, the reviewers did cite some reasons why control theory is no longer hip; its because the
"consensus is that feedback control can't account for the facts of motor control"; this, in spite of teh fact that my control model behavior matched the behavior of the subject to within 1%. The reason for this "consensus" is facts that lead to rejection of control theory. These facts include the delay between input and output in the human nervous system, non linearities in limb dynamics; the reviewer forgot to mention deafferentiation. This kind of misinformation is really exasperating but I think it is a symptom of this "trnedy science" phenomenon that seems particularly apparent in psychology but, no doubt, goes on elsewhere also.
I
Given the "trendy" mindset, I think it becomes irrelevant to point out why the results alluded to do not negate control theory (although I did point out the reasons why non of these proposed refutations of control theory holds water -- in my letter to Estes). The fact of the matter is that people are doing psychology for reasons that have very little to do with trying to understand human behavior. They are doing it in order to prove the value of their particular trendy theory. Since modeling (as we use it) is rarely a component of trendy psychology there is no reason to worry about things not working out. The data usually come close enough for "looks".

Rather than trying to refute the deafferentiation study claims (which, no matter how well done would almost surely be futile) I propose writing an article on the demise of control theory. What led to psychologists disenchantment with this once sexy theory? I think we can show that some of the main research cited as evidence against control theory is based on a complete misunderstanding of how control works; we could also point how how changes in behavior theories have had more to do with people's perception of what's currently "hot" than with what actually works.

I propose than an agenda for the CSG is showing, not that control theory is the great new approach to understanding behavior, but that it is not, and never was, disproved. We are dealing with people who are uninterested in control theory, not for legitimate scientific reasons but simply because they believe that it is "old hat". How do we make it clear that control theory should never have beeen dismissed; psychologists had the diamonds in their hands over thirty years ago and they assumed that they were glass (with out testing it). They have moved on to the costume jewelery, which they seem to find more attractive. Alas, it going to be a long time before we get a new generation that has not written off control theory a priori.

There, I got that out of my system. Thanks for listening.

Hasta Luego

Rick M.

P.S. from Gary Cziko

Two former students of Wayne Hershberger have been added to CSGnet:

Dave Carpenter at St. Boniface University (is that the one in Manitoba?)
Jerry Cleland of Barat College.

It would be nice for new members to give us a brief introduction of who they are and what their interests are. This would also include Joe McGrath.

From ???@??? Wed Sep 19 07:55:45 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA25690 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 15:30:09 -0500
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 7844; Tue, 18 Sep 90 15:30:07 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id 7839; Tue, 18 Sep 90 15:30:06 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 5944; Tue, 18 Sep 1990
15:30:04 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from TBOURBON@SFAUSTIN by CP-6 BitNet Exporter B02 @SFAUSTIN;18 SEP 90
15:07:51 CDT
Received: from TBOURBON@SFAUSTIN by CP-6 MAIL Exporter B02 @SFAUSTIN;18 SEP 90 1
5:07:49 CDT
Date: 18 SEP 90 15:07:22 CDT
From: RLPSYU08 <TBOURBON@SFAUSTIN>
To: <CZIKO@vmd.cso.uiuc.edu>
X-Orig-To: CZIKO@UIUCVMD.BITNET
Subject: New "Member"
Message-Id: <900918.15072132.032679@SFA.CP6>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested

Gary,
Warren Thorngate, in the Department of Psychology, Carleton University, in Canada, would like to be part of the CSGNET.
His address is:
WTHORNGT@CARLETON.BITNET.
Warren has written, astutely, about control theory as a source of experimentgal methods appropriate to the task of understanding individual subjects -- much in the line followed by Phil Runkel in his new book.
Also, Michael Hyland, at Plymouth, England, would like "on", but I can't interpret his return address. I plan to ask a colleague who corresponds with people in Englad for a trasnslation. I'll send it to you as soon as it is ready.

Tom Bourbon <TBourbon@SFAustin.BITNet>

From ???@??? Wed Sep 19 07:55:50 1990
Received: by ux1.cso.uiuc.edu id AA12606 (5.64+/IDA-1.3.4 for cziko); Tue, 18 Sep 90 16:59:21 -0500
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA12574 (5.64+/IDA-1.3.4 for g-cziko); Tue, 18 Sep 90 16:59:16 -0500
Message-Id: <9009182159.AA12574@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 5725; Tue, 18 Sep 90 16:59:44 CDT
Received: by UIUCVMD (Mailer R2.07) id 5724; Tue, 18 Sep 90 16:59:44 CDT
Date: Tue, 18 Sep 90 16:57:59 CDT
X-Ph: V3.2@ux1.cso.uiuc.edu
From: Rich Ramos <RICHR@vmd.cso.uiuc.edu>
Subject: Re: List Server Info

To: g-cziko@uiuc.edu
In-Reply-To: Your message of Tue, 18 Sep 90 11:27:04 -0500

On Tue, 18 Sep 90 11:27:04 -0500 you said:
>Rich: From just having "subscribed" to list on another campus, I now
>realize that there are lots of interesting things one can do with such a
>list in addition to just bouncing message.
>
>Can you send me or point me to (through VMD) info on this? I can't seem to
>find anything on the help menus on VMD.--Gary
>
>P.S. Let me know how my list is coming. I haven't heard from you in a
>while. Do you still need a PS number?
>
>Gary A. Cziko Telephone: 217/333-4382
>Associate Professor of Educational Psychology FAX: 217/333-5847
>Bureau of Educational Research Internet: g-cziko@uiuc.edu
>1310 S. 6th Street-Room 230 Bitnet: cziko@uiucvmd
>Champaign, Illinois 61820-6990
>USA

Gary,
The easiest way is to start off by typing:
TELL LISTSERV HELP

then follow what it tells you with more commands that are
prefixed by : TELL LISTSERV

I will let you know about your list in another day or so,
Sorry about the problems.

Rich

From ???@??? Wed Sep 19 08:10:56 1990
Received: by ux1.cso.uiuc.edu id AA29102 (5.64+/IDA-1.3.4 for cziko); Wed, 19 Sep 90 08:09:14 -0500
From: g-cziko@uiuc.edu
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA29001 (5.64+/IDA-1.3.4 for j-mcgrath); Wed, 19 Sep 90 08:08:07 -0500
Date: Wed, 19 Sep 90 08:08:07 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009191308.AA29001@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)$l$ma01@luccpua.bitnet,
(CLELAND_Dave:_St_Bonaventure_U)dcarp@sbu.edu,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNTON_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
Subject: New "Member"

Dear CSGnet:

Warrent Thorngate of the Psych Dept. at Carleton U. in Ottawa, Canada has
been added to the network. Tom Bourbon writes:

>Warren has written, astutely, about control theory as a source
>of experimentgal methods appropriate to the task of understanding
>individual subjects -- much in the line followed by Phil
>Runkel in his new book.

Tom, keep up the good work in getting control theorists hooked up with us.
We are becoming quite an active electronic community!

Gary A. Cziko
Associate Professor of Educational Psychology
Bureau of Educational Research
1310 S. 6th Street-Room 230
Champaign, Illinois 61820-6990
USA

Telephone: 217/333-4382
FAX: 217/333-5847
Internet: g-cziko@uiuc.edu
Bitnet: cziko@uiucvmd

From ???@??? Wed Sep 19 12:41:16 1990
Received: by ux1.cso.uiuc.edu id AA10115 (5.64+/IDA-1.3.4 for cziko); Wed, 19 Sep 90 12:12:11 -0500
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA09943 (5.64+/IDA-1.3.4 for j-mcgrath); Wed, 19 Sep 90 12:11:18 -0500
Date: Wed, 19 Sep 90 12:11:18 -0500
Message-Id: <9009191711.AA09943@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)$l$ma01@luccpua.bitnet,
(CLELAND_Dave:_St_Bonaventure_U)dcarp@sbu.edu,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCGRATH_Joe:_U_Illinois_at_Urbana;_Psych)j-mcgrath@uiuc.edu,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: CSGnet - The Demise of Control Theory

I will try to start a new thread on "The Demise of Control Theory". Hopefully others will beef up these postings so it can become a paper. I don't know how to add stuff to postings by others but those who can should do so.

Control theory began as an engineering discipline and has prospered as such. During WWII control theory made two apparently independent inroads into psychology:1) via Weiner et al and cybernetics and 2) via Craik et at and the manual control studies. Cybernetics was kind of a grant, non-research based approach to applying feedback control ideas to understanding purposeful behavior in living systems. It never really had much of an empitical base and it sort of turned into information processing and cognitive approaches to understanding behavior. The emphasis on purposeful behavior dropped out of cybernetics pretty early in the game; when that happened, the switch to digital computer modeling was easy. The manual control people are still using control theory: they understood right off the bat that a person controlling, say, the altitude of an airplane was in a casal loop (man in the loop). There was no emphasis on the purposeful nature of this behavior. But this approach had a very solid empirical base (the Smith's are probably related to this tradition). The use of control theory is always in a S-R context. WHat we call a disturbance is always considered the "driving function" or stimulus and

the position of the hand or "controller" was the output or response. The manual control tradition is still alive but very limited in its view. Moreover, because the underlying concept is S-R, data that seem to suggest limitations in the S-R chain are taken seriously and new types of control models that cannot possibly work, like feedforward and motor program, have been developed as a result.

Thus, control theory, which was central to understanding purposeful behavior in cybernetics and closed loop control in manual tracking, has been abandoned in favor of models that are more consistent with the stimulus-response orientation that has existed in the behavioral sciences since Descartes. One could try to come up with many reasons for the demise of control theory: in cybernetics it was facination with the digital computer, the impact of information theory, the reaction to behaviorism that led to an obsession with higher mental processes. In manual control it was empirical studies that seemed inconsistent with their S-R interpretation of control such as reaction time studies showing lags of 200msec and more to respond to stimuli, sucessful movement to targets with "no visual feedback" during the movement period, sucessful behavior after deafferentiation, etc.

Still, one wonders why control theory has been so readily abandoned and relegated to the waste heap of failed "machine analogies" if it is really the best model we have of how behavior works. How can all these psychologists, many of whom are very clever folks, have missed such an obvious fact. I think the reason for the demise of control theory is not due to the detailed events and findings mentioned in the previous paragraph. Most current theories have whether far more profound onslaughts than a few reaction time studies and what not. Even Skinnerian behaviorism is still alive and well despite many events far more profound than those that apparently leveled control theory. Some imagine that cognitive psychology itself was the nail in the Skinnerian coffin -- but no way. Tolman's demonstrations should have put an end to all s-r psychology -- but nooooo.

I beleive that there is one fundemental reason for the demise of control theory. It is the same reason I gave (in my Behavioral Science article of May 1988) for why control theory has not yet been accepted more generally. The reason is simply that none of those who were using control theory really understood the "phenomenon of control". Cyberneticists taked about purpose but they never understood that purpose was a phenomenon -- not just another way of looking at behavior. Manual controllers knew that their subjects were controlling but they didn't really know how this phenomenon differed from other kinds of behavior.

I still say that one of Bill Powers main contributions is to have pointed out that there is a phenomenon out there called control or purposeful behavior; My Behavioral Science article proposes one way that you can recognize control when it is happening. Control (or purpose) is "unexpected consistency"; it is the production of consistent results in the face of inconsistency (disturbance). Control occurs when reliable ends are produced by unreliable means. There are many ways to describe control and purpose. But however it is described, it is clear that control is NOT what is being studied by psychologists today (or yesterday). Ultimately, the demise of control theory resulted from the fact that control theory is a model of a phenomenon that is different from that studied in psychology.

I have recent though of a distinction that might help clarify the difference between the subject matter of con-

ventional psychology and the subject matter of control theorists. Psychologists study "objective behavior"; the actions and results of actions that can be perceived by an external observed. In objective behavior, the observer decides (on what basis? Probably just what makes sense) what constitutes "behavior". Control theorists study "subjective behavior"; the actions and results of actions that are the intended perceptions of the behaving system. In subjective behavior, the observer must try to see behavior from the perspective of the behaving organism. Behaviors that are intended perceptions are protected from disturbance. So we can learn what constitutes the subjective behavior of the organism by testing hypotheses (which we make up) about the results that are intended; we test these hypotheses by applying disturbances and looking for lack of effect.

I still believe that we will not be able to successfully "disinter" control theory until we convince life scientists that there is a phenomenon that they have been ignoring -- control. This phenomenon is "objectively" obeservable subjective (not objective) behavior. What we need to do as control theorists is develop more demonstrations of the FACT of control. There are many conventional areas where this could be done fairly easily. In particular, in operant conditioning it would be fairly easy to show that animals resist disturbances (like changes in size of food delivered) and control the amount of food ingested over time. This could be done quite precisely -- the greater the precision the more convincining the demonstration that you have, indeed, identified the animal's subjective behavior (otherwise known as the controlled variable).

Regards,

Richard S. Marken

From ???@??? Thu Sep 20 08:33:29 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA25002
(5.64+/IDA-1.3.4 for cziko); Wed, 19 Sep 90 13:29:37 -0500
Message-Id: <9009191829.AA25002@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 3702; Wed, 19 Sep 90 13:30:04 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 3700; Wed, 19 Sep 90 13:30:03 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 2454; Wed, 19 Sep 1990
13:30:03 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id
2453; Wed, 19 Sep 90 13:18:09 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with BSMTP
id 6473; Wed, 19 Sep 90 14:16:43 EDT
Date: Wed, 19 Sep 90 14:10:26 EDT
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Subject: addresses
To: "GARY A. CZIKO" <CZIKO@vmd.cso.uiuc.edu>

I think that you header does not have the address that is above so when I try to use my reply function it does not work because it looks for you addres
s and finds "uiuc" not uiucvmd or your internet address so it you could put that in the header of the from then it would be returned. Try it.

Chuck

From ???@??? Thu Sep 20 08:33:32 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA28874
(5.64+/IDA-1.3.4 for cziko); Wed, 19 Sep 90 13:49:39 -0500
Message-Id: <9009191849.AA28874@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX)
with
BSMTP id 4471; Wed, 19 Sep 90 13:50:04 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 4470; Wed, 19 Sep 90 13:50:03 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 3979; Wed, 19 Sep
1990
13:50:03 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP
id
3978; Wed, 19 Sep 90 13:36:57 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with
BSMTP
id 6534; Wed, 19 Sep 90 14:35:25 EDT
Date: Wed, 19 Sep 90 14:32:54 EDT
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Subject: addresses of Carpenter and Cleland
To: "GARY A. CZIKO" <CZIKO@vmd.cso.uiuc.edu>

I have not entered the node addresses for thes fellows on my names file
because there looks like a error here. It looks like Cleland has Carpenter's
name; am I correct?

Thanks

Chuck

From ???@??? Thu Sep 20 08:33:36 1990
Received: from s.psych.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA12592
(5.64+/IDA-1.3.4 for cziko); Wed, 19 Sep 90 17:39:42 -0500
Received: by s.psych.uiuc.edu id AA08646 (5.64+/IDA-1.3.4 for
cziko@ux1.cso.uiuc.edu); Wed, 19 Sep 90 17:37:31 -0500
From: J-MCGRATH@h.psych.uiuc.edu
Received: from h.psych.uiuc.edu by s.psych.uiuc.edu with SMTP id AA08641
(5.64+/IDA-1.3.4 for g-cziko); Wed, 19 Sep 90 17:37:29 -0500
Received: by h.psych.uiuc.edu with SMTP (4.12/4.7) id AA1313; Wed, 19 Sep 90
17:47:35 cdt (actually: cst/cdt)
Date: Wed, 19 Sep 90 17:47:35 cdt
Message-Id: <9009191747.AA1313@h.psych.uiuc.edu>
X-Ph: V3.3@s.psych.uiuc.edu
Subject: In reply to your message of Wed, 19 Sep 90 08:08:07 -0500
To: g-cziko@uiuc.edu
Cc: J-MCGRATH@h.psych.uiuc.edu

Gary, please take me off the control theory email list.
For reasons unknown to me, I am getting hundreds of messages --
but all I get is the header. I literally had 31 header only messages when I si
signed on today, 3 from you and the others from addressees I can't
decode. So please take me off the list.

Joe McGrath

From ???@??? Thu Sep 20 09:03:44 1990
Received: by ux1.cso.uiuc.edu id AA08581 (5.64+/IDA-1.3.4 for cziko); Thu, 20
Sep 90 08:58:34 -0500
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA08064

(5.64+/IDA-1.3.4 for g-cziko); Thu, 20 Sep 90 08:53:45 -0500
Date: Thu, 20 Sep 90 08:53:45 -0500
Message-Id: <9009201353.AA08064@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)dcarp@sbu.edu,
(CLELAND_Dave:_St_Bonaventure_U)$l$ma01@luccpua.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: TJ0WAH1@niu.bitnet (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: HI GUYS

TO THE CSG:
I ENJOY READING MY CSG E-MAIL. THANKS GARY FOR GETTING US CONNECTED! I ONLY WISH BILL WERE PLUGGED INTO THE NETWORK.

[Note from Gary Cziko: Don't tell anyone, but I have been sending Bill weekly printouts of all CSGnet messages by U.S. mail. I can't promise I can keep this up, but for now he is seeing everything that gets said here.]

RICK, YOU ARE MOVING SO RAPIDLY MY HEAD IS SPINNING. YOU HAVE TOUCHED UPON A RAFT OF IMPORTANT POINTS AND SUGGESTED A NUMBER OF WORTHWHILE OBJECTIVES FOR US TO PURSUE. I HOPE YOU CAN REMEMBER THEM ALL. THEY ARE NOT MUTUALLY EXCLUSIVE. WE MAY BE ABLE TO DO SEVERAL. BUT I, FOR ONE, CAN NOT DECIDE WHETHER OUR "PROBLEM" IS (A) AN INABILITY TO GET PUBLISHED IN MAINSTREAM JOURNALS, OR (B) CONTEMPORARY PSYCHOLOGY'S LACK OF INTEREST IN THE PSYCHOLOGY OF BEHAVIOR. I WONDER WHETHER THE AUDIENCE WE WISH TO REACH WOULD PAY CLOSER ATTENTION IF WE CALLED OUR APPROACH NEO-BEHAVIORISM? REMEMBER, CLARK HULL WAS TRAINED AS AN ENGINEER; HAD HE BEEN A CONTROL-SYSTEMS ENGINEER, PSYCHOLOGY WOULD STILL BE THE SCIENCE OF BEHAVIOR, ONE WHICH STUDIED CONTROLLED INPUT (WHAT YOU, RICK, HAVE CALLED BEHAVIOR IN THE FIRST DEGREE--ALLUDING TO JURISPRUDENCE), AS WELL AS EMITTED AND ELICITED OUTPUT. YOU ARE RIGHT RICK, BEHAVIORISTIC PSYCHOLOGISTS HAVE FAILED TO RECOGNIZE THAT CONTROL OF INPUT IS A TYPE BEHAVIOR ALTOGETHER DIFFERENT FROM THE OTHER TWO. IT IS A REMARKABLE PHENOMENON IN ITS OWN RIGHT. BUT WHO IS MOST LIKELY TO GIVE A TINKER'S DAM ABOUT THIS NEW BEHAVIORAL PHENOMENON, COGNITIVISTS, OR (NEO-)BEHAVIORISTS? OF COURSE, IT MAY BE THAT NEITHER IS INTERESTED; PERHAPS OUR TRUE AUDIENCE IS NOT YET BORN. WHERE DOES ONE PUBLISH TO REACH SUCH AN AUDIENCE?

TOM, DO YOU HAVE AN EXTENSIVE BIBLIOGRAPHY ON DEAFFERENTATION? RICK, WHAT ABOUT THE BEHAVIORAL AND BRAIN SCIENCE ARTICLE YOU AND BILL WERE WORKING ON. I WONDER IF THAT WOULDN'T BE A GOOD DRAFT TO START FROM. WHAT WE PROBABLY NEED TO DO IS STEAMROLL THE "OPPOSITION" STARTING WITH THE EDITORS. WE NEED A MAGNUM OPUS. BUT WITH A DIVISION OF LABOR IT SHOULD BE POSSIBLE TO DO IN A YEARS TIME, DO YOU THINK?

From ???@??? Thu Sep 20 10:31:11 1990
Received: by ux1.cso.uiuc.edu id AA20582 (5.64+/IDA-1.3.4 for cziko); Thu, 20 Sep 90 10:20:57 -0500
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA20379

(5.64+/IDA-1.3.4 for g-cziko); Thu, 20 Sep 90 10:19:53 -0500
Date: Thu, 20 Sep 90 10:19:53 -0500
Message-Id: <9009201519.AA20379@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
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(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
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(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
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(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: CSGnet - Trendy Science

Hi again all -- and Hi Wayne. I just saw your note (I got it today, 9/20). I'm a sort of spewing stuff out but I know that this stuff is archived (hopefully by Gary but I'm keeping the files as well) and had also found out
that Gary is sendind copies to Bill by US MAil (great idea) so there are hard copies. So I'm relatively confident that what we post will not go into the bit bucket.

I would also like to apologize to all on CSGnet for typos in my postings. I don't know how to use my editor on this machine so I can only edit the current line I'm typing. I will try to be much more careful but it is hard to control spelling (a configuration) while trying to control the general meaning of a posting (system level maybe?). I tend to try to get the stuff in my head out to the page and it's hard to go back (when I notice) and correct the lower order errors. (Maybe there is a "cognitive" experiment lurking right at my finger tips). But I will try to be more careful about spelling and such.

I just wanted to mention, in relation to my "Demise of control posting" where I carried on about the fact that psychology seems more concerned with being hip then with explaining behavior, that I just say an article that illustrates this to a "t". It was the lead article in a little newsletter I receive from the Human Factors Society -- it is called the Human Factors Newsletter, strangely enough, and the lead article was about the need for a paradigm shift in psychology, the science that underlies Human FActors engineering. Well, the guy (I forget the name, I left the article at work) is carrying on about how AI, expert systems and whatnot may all just be the last gasps of what he calls a "Newtonian paradigm" that underlies all science, including psychology. He correctly (I think) recognizes all modern psychology (cognitive included) as based on an s-r or behavioristic model (though I don't think he ever uses the word "model") and he thinks this paradigm is outmoded -- though he doesn't say why. He then goes on to point out what the new paradigm should be:

dissipative structures and non-linear systems!

Why? All I can tell from the article is that we should change to this paradigm because it seems that dissipative structures are a hot item in physics. I don't know about you but it would not have immediately occurred to me that people are dissipative structure (well, maybe late satuday night).

The author has written some other articles on this topic in other journals. I you are interested I'll bring the references to work and post them (I might even do it if you are not interested). I should point out that, even though this guy is a perfect example of trendy science in action, the guy's heart is in the right place when it comes to dealing with people. Somehow his "new paradigm", probably because it is anti-behavioristic emphasizes a "people centered" approach to systems design. I'm sympathetic to the humanistic gobbledy-gook (sp?) in the article but amused (and saddened) by the approach to science that it seems to embrace.

Anyway, there is a clear message in this (I think Wayne mentioned it in his note), namely, whenever you write an article articulating a "new paradigm" theory, for the next few months (years) call it "dissipative structure theory" and people might listen. But be prepared to change the name at a moments notice and sternly denounce "dissipative structure" theory once it goes out of fashion.

Have a nice paradigm.

Rick M.

P.S. from Gary Cziko: Please try to include a signature at the end of your note as Rick has done here. Some of you may not have been able figure out that that last message was from Wayne Hershberger. Of course you can check the "from" email address with the long address, but pretty soon when I move this whole operation onto a List Server, this long TO: list will probably not be generated.

So again, please "sign" your mail, preferably including your email address as well.

From ???@??? Thu Sep 20 15:09:34 1990
Received: by ux1.cso.uiuc.edu id AA10522 (5.64+/IDA-1.3.4 for cziko); Thu, 20 Sep 90 15:07:44 -0500
From: g-cziko@uiuc.edu
Received: from mac71.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA10341 (5.64+/IDA-1.3.4 for g-cziko); Thu, 20 Sep 90 15:06:40 -0500
Date: Thu, 20 Sep 90 15:06:40 -0500
X-Ph: V3.2@ux1.cso.uiuc.edu
Message-Id: <9009202006.AA10341@ux1.cso.uiuc.edu>
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)dcarp@sbu.edu,
(CLELAND_Dave:_St_Bonaventure_U)$l$ma01@luccpua.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
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(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
Subject: CSGNET

Dear CSGnet:

I couldn't help forwarding this note from Hugh Petrie. I'd hate to think

that CSGnet might be responsible for a Dean of Education (SUNY Buffalo) stepping down, but then again maybe not!--Gary

>Date: Thu, 20 Sep 90 15:12 EST
>X-Ph: V3.2@ux1.cso.uiuc.edu
>From: Hugh Petrie <PROHUGH@ubvms.bitnet>
>Subject: CSGNET
>To: g-cziko@uiuc.edu
>X-Organization: University at Buffalo
>X-Envelope-To: g-cziko@uiuc.edu
>X-Vms-To: IN%"g-cziko@uiuc.edu"
>
>Gary--Thkanks for asking if I want to stay on the CSGNET. The answer
>is a resounding, "YES"! In fact, the old scholarly juices are starting
>to flow and you mqy yet be resposible for causing a Dean to step down.
>I probably will not be able to participate much at present, but I
>definitely want to stay on the net. The discussion has been great.
>--Hugh
>
>

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From ???@??? Fri Sep 21 07:40:28 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA17822
(5.64+/IDA-1.3.4 for cziko); Thu, 20 Sep 90 19:09:40 -0500
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 7427; Thu, 20 Sep 90 19:10:06 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 7413; Thu, 20 Sep 90 19:10:04 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 7148; Thu, 20 Sep 1990
19:10:02 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UMICHUM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id
7147; Thu, 20 Sep 90 18:57:30 CDT
Date: Thu, 20 Sep 90 19:54:54 EDT
From: Dennis Delprato <USERXEAK@umichum.bitnet>
Subject: To CSGnet
To: cziko@uiucvmd.bitnet
Message-Id: <6884909@UMICHUM.BITNET>

REALLY FROM: Dennis <DELPRATO@UM.CC.UMICH.EDU>

First, Thank you, Gary, for your efforts with CSGnet.

I have a few remarks to make concerning "Trendy Science" and related items (especially see Rick Marken's recent postings). First, Rick could not have put it better. Fads, fancies, and falderals (someone published a paper with these in the title one time, I think)--predominate. The plaudits, awards, and fleeting recognition so frequently go

to those with so little of enduring value to offer. They polish up what people already think they know and run with it. Even though feedback regulation is obvious and people could feel they know it, cultural tradition has so blinded us that it passes most of us right by. The history of science teaches us not to expect widespread recognition for truly novel work. But who wants the acclaim of the masses, anyway? Most of us are smart enough to pass off the pap of mainstream (trendy) psychology with success, if we work at it--but with what benefits? So I suggest that control theorists and researchers spend less time worrying about impressing the mainstream so they can concentrate on what they do best--developing and testing models of behavioral events that work. I would be quite suspicious if Mr. & Ms. APA suddenly, in 1991, embraced feedback control as the trendyY wave of their future. They have demonstrated they have too far to go to appreciate the implications of what they would be touting.

In addition to spending less time worrying about pleasing the upholders of the status quo, I also recommend that control theorists tone down the anti-behaviorism talk. I make this suggestion for more than one reason. I know this behaviorism stuff is a touchy issue in this group, and that I really could go to great lengths to get my points across; however, I'll be brief. First, behaviorism is many-headed. Yes, it originally was S-R, but real S-R theorists are virtually impossible to find--they are just about all dead. Good old-fashioned S-R theorizing hasn't been trendy since the 1950s. Beginning in the 1960s, there was a great rush to replace S-R theory....with one or another of cognitive or information-processing theory. Sure, we knowY these are S-R (i.e., lineal mechanical), but no one admits this. So, when one attacks S-R theory, they seem behind the times (not trendy).

Then there is behaviorism and Skinner. Skinner is a lot more tricky than many think. For one thing, he has disavowed S-R theory from the beginning. Even when he promoted the reflex as the fundamental behavioral unit, he favored a non-S-R "reflex," (the operant--no initiating antecedent). The very term is used to convey the organism "operating on the environment," not the environment operating on the organism. Yes, Skinner slips up--he goes on to make claims about the ultimate causes as environmental, for example. But if one traces through his corpus (as I did), one realizes that it is impossible to properly characterize his views as S-R. Skinner's psychology is <not> the wave of the future, but it <is> advanced over that of the mystics, psychospookologists, supernaturalists, and other dualists of mainstream psychology. Skinner's emphasis on the consequences of

behavior (as he puts it) <has> led some to take feedback (feedback functions) as the bedrock of their research and theory. These workers are as little appreciated as are other feedback theorists. I am referring to the Staddons and Baums who speak of molar analysis. Feedback control theorists seem to not approve of the approach taken by the molar analysts; however, it is possible that there are some interesting bridges here that could be looked into. I suspect that a young researcher could lead a very interesting life going back-and-forth between feedback-function based work and control systems research. In my opinion, both control system theorists and molar behaviorists would do their students a favor by exposing them to the "other" area.

The final item pertains to Rick's call for a new paradigm. For starters, we might best forget the paradigm construction as a way of referring to scientific behavior. The term may do no harm, but it may make it more difficult to realize that THERE IS A NEW APPROACH TO THE WORLD that replaces what CST contributes to replacing. Those concerned with the scientific understanding of human behavior bear a heavy burden due the the fact that their subject matter has been obscured by centuries of non-naturalistic cultural tradition. On the other hand, we do have the luxury of learning from the other sciences. And the history of science teaches us that as workers have come to more and more approach their subject matter as naturalistic, they have moved, first, to lineal mechanism, and subsequently to a field/system perspective. J. C. Maxwell was of the opinion that physics moved from the conception of "natural phenomena as the result of forces acting between one body and another" to the "next stage of progress" (field construction) by the early part of the 19th century. But this was Maxwell. We know that most actual physicists didn't take this step until the 20th century and even Einstein was first a mechanist. The point is that CST is pure and simple a component of a radically new way of treating human behavior--as a field phenomenon--as opposed to any version of the earlier lineal mechanism. Mainstream psychology is one-way. At the most, when pure one-way descriptions are rejected in favor of "interactionism," "reciprocal determinism," or the like, we find successions of one-way causal relations promoted. Indeed, CST is part of a strange new world for human behaviorY. The history of science, including psychology, supports this. At times, I think there may be a tendency for control theorists to take the field orientation as an alternative to theirs. Instead, I recommend that the field orientation be taken as the most general alternative to lineal mechanism, with control theory a generally applicable framework for actually doing something with behavior within the field world view. We are

finally discovering how to do behavioral research that truly fits in with the most recently-evolved way of viewing the world. It will take a while before this all gets going on any sort of large scale.

From ???@??? Fri Sep 21 07:40:36 1990
Received: from garcon.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA08217 (5.64+/IDA-1.3.4 for cziko); Thu, 20 Sep 90 21:47:42 -0500
Received: by garcon.cso.uiuc.edu id AA10567 (5.64+/IDA-1.3.5 for cziko@ux1.cso.uiuc.edu); Thu, 20 Sep 90 21:46:33 -0500
From: Dennis_Delprato@um.cc.umich.edu
Received: from umich.edu by garcon.cso.uiuc.edu with SMTP id AA10562 (5.64+/IDA-1.3.5 for g-cziko); Thu, 20 Sep 90 21:46:28 -0500

Received: from um.cc.umich.edu by umich.edu (5.61/1123-1.0) id AA04520; Thu,
20 Sep 90 22:46:25 -0400
Date: Thu, 20 Sep 90 22:45:30 EDT
X-Ph(3.1)-To: cziko@ux1.cso.uiuc.edu
To: g-cziko@uiuc.edu
Message-Id: <6885594@um.cc.umich.edu>
Subject: CST & Molar Behaviorists

REALLY FROM: Dennis <DELPRATO@UM.CC.UMICH.EDU>

The molar behaviorists certainly do seem to be ready for authentic control system theory and research. The following is from H. Rachlin's <Behavior and Learning> (1976, San Francisco: W. H. Freeman, p. 119):

WARNING

A simple reflex, as we said earlier, is an abstraction. Rarely in anatomy or behavior, and almost never in human anatomy or behavior, does the chain of reflex action occur as a simple stimulus causing a simple response without feedback and influence from other sources. We do not simply see a stimulus--we <look> at the stimulus, so the behavior (of looking) occurs simultaneously with, or even prior to, the stimulus. Looking and seeing form a coordinated complex act. At the other end of the reflex, it is almost never the case that the nervous system triggers off a response and then forgets about it. Rather, the response is guided by the stimuli it produces. I do not throw my hand at a salt shaker (that is, I do not make a ballistic response); my reaching for the salt shaker is guided by the relative positions of my hand and the salt shaker as I see them and as I feel the position of my hand and body throught proprioception. The model that best explains the process of reaching for a salt shaker is not a simple stimulus-response (S-R) model (see the salt shaker--reach for it), but rather a complex version of the tracking procedure we shall discuss next.

The danger of considering the reflex as a simple S-R connection was pointed out as early as 1896 by the psychologist John Dewey (1859-1952).

From ???@??? Fri Sep 21 07:58:46 1990
Received: by ux1.cso.uiuc.edu id AA07796 (5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 07:54:39 -0500
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA07575 (5.64+/IDA-1.3.4 for g-cziko); Fri, 21 Sep 90 07:53:21 -0500

Date: Fri, 21 Sep 90 07:53:21 -0500
Message-Id: <9009211253.AA07575@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
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(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: Dennis_Delprato@um.cc.umich.edu (by way of (Gary A. Cziko)
g-cziko@uiuc.edu)
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Received: by ux1.cso.uiuc.edu id AA07823 (5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 07:54:55 -0500
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Date: Fri, 21 Sep 90 07:53:42 -0500
Message-Id: <9009211253.AA07638@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,

(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
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(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
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(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
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(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: Dennis Delprato <USERXEAK@umichum.bitnet> (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: To CSGnet

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general alternative to lineal mechanism, with control theory a generally applicable framework for actually doing something with behavior within the field world view. We are finally discovering how to do behavioral research that truly fits in with the most recently-evolved way of viewing the world. It will take a while before this all gets going on any sort of large scale.

From ???@??? Fri Sep 21 07:58:58 1990
Received: by ux1.cso.uiuc.edu id AA07999 (5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 07:57:05 -0500
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA07986 (5.64+/IDA-1.3.4 for g-cziko); Fri, 21 Sep 90 07:57:02 -0500
Message-Id: <9009211257.AA07986@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 4892; Fri, 21 Sep 90 07:57:28 CDT
Received: by UIUCVMD (Mailer R2.07) id 4891; Fri, 21 Sep 90 07:57:27 CDT
Date: Fri, 21 Sep 90 07:57:27 CDT
X-Ph: V3.2@ux1.cso.uiuc.edu
From: Revised List Processor (1.6d) <LISTSERV@vmd.cso.uiuc.edu>
Subject: File: "CSG-L LIST" being sent to you
To: "(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)" <g-cziko@UIUC.EDU>

*
* CSG distribution list
*
* Review= Private Subscription= By_owner Send= Private
* Notify= Yes Reply-To= List,Respect Files= Yes
* Validate= All commands
* Confidential= No
* Service= *UIUC.EDU,UIUC*,NCSA*,UIUCVMD
* Local= *UIUC.EDU,UIUC*,NCSA*,UIUCVMD
* NOTEBOOK= YES,N,MONTHLY
* STATS= None
*
* OWNER= CZIKO@UIUCVMD
* OWNER= LISTOWNER@UIUCVMD
*
*
marken@AEROSPACE.AERO.ORG (MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)
WTHORNGT@CARLETON THORNGATE Warren, Carleton U.
kdeacon@INETG1.ARCO.COM (DEACON_Keith)
dtc0@LEHIGH.BITNET (CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)
1MA01@LUCCPUA CLELAND Dave, St. Bonaventure U
tj0wah1@NIU.BITNET (HERSHBERGER_Wayne;_Northern_Illinois_U)
dcarp@SBU.EDU CARPENTER Dave, Barat College
tbourbon@SFAUSTIN.BITNET BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX
prohugh@UBVMSC.CC.BUFFALO.EDU (PETRIE_Hugh:_SUNY_Buffalo_NY)
g-cziko@UIUC.EDU
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:czik
cmcphail@UIUCVMD.BITNET (MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)
delprato@UM.CC.UMICH.EDU (DELPRATO_Dennis;_Eastern_Michigan_U)
n050024@UNIVSCVM.BITNET (TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)
mccord@WCUVAX1.BITNET (MCCORD_David;_Western_Carolina_U)
*
* Total number of users subscribed to the list: 14
* Total number of local node users on the list: 0
*

From ???@??? Fri Sep 21 11:14:26 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA26923 (5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 10:09:57 -0500

Message-Id: <9009211509.AA26923@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 0293; Fri, 21 Sep 90 10:10:13 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id 0279; Fri, 21 Sep 90 10:10:10 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 9844; Fri, 21 Sep 1990
10:10:06 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id
9841; Fri, 21 Sep 90 10:01:05 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with BSMTP
id 0019; Fri, 21 Sep 90 10:59:31 EDT
Date: Fri, 21 Sep 90 10:31:45 EDT
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Subject: A brief note to CSGNET
To: "GARY A. CZIKO" <CZIKO@vmd.cso.uiuc.edu>

Dear CSGNET,

I think it is wonderful that we can communicate our ideas by e-mail and write about those matters that disturb us and try to come to some resolution to these difficulties. I want to encourage it and I am trying to save all of our communications. I will even contribute when I think I can be helpful. I don't think that we should set ourselves up for errors and problems. i think it will result in an error it we believe that we will have discernable effect on changing the way most social and behavioral scientist explain their experiences and their "world". Clark and I and several others have been working on this for at least 25 years (some like Blumer for 50) to make dent in social psychology w/o a great deal of success. Clark has worked for 20 years trying to alter the view of collective behavior in sociology with a few successes but the intro texts have not changed since 1939. So what is the use of it all?

The use is for ourselves. We can better understand how the current situation developed and attempt in our communication with the few colleages we talk to and the many students that we talk at (to?, with?) who have a question about the development of these ideas. After people begin to understand the ideas they do wonder how come everyone does not use them. Well, we can tell them so we can better communicate and they can understand when the run into blank stares. So these exercises can be very useful but let's not fool ourselves or set ourselves up for error. If someone wants to read what we write that is fine, send it to them but don't be surprised if they won't understand and may perhaps be offended. (by the way this is feed forward for me - anticipate what is likely to occur and attempt to avoid it). And finally, I would suggest that Bill's answer to Bandura is a good place to begin to locate misunderstand-
ings that happen to the best with the best intentions. Although Bill dis not write it that way it can be used that way, I think.

So let keep it up but realize the others and ourselves control or regulate our own conduct and by our own view (and it is a view) we can not force these ideas on anyone and when we try it we are disturbances.

I will write when I can sit down and read carefully what was written today. Have a good weekend celebrating the one year anniversary of HUGO.

Chuck

From ???@??? Fri Sep 21 11:14:30 1990
Received: from garcon.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA04819

(5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 10:53:38 -0500
Received: by garcon.cso.uiuc.edu id AA13329 (5.64+/IDA-1.3.5 for
cziko@ux1.cso.uiuc.edu); Fri, 21 Sep 90 10:52:28 -0500
From: marken@aerospace.aero.org
Received: from aerospace.aero.org by garcon.cso.uiuc.edu with SMTP id AA13324
(5.64+/IDA-1.3.5 for g-cziko); Fri, 21 Sep 90 10:52:24 -0500
Received: from localhost by aerospace.aero.org with SMTP (5.61++/6.0.GT)
id AA02228 for g-cziko@uiuc.edu; Fri, 21 Sep 90 08:52:08 -0700
Posted-Date: Fri, 21 Sep 90 08:52:04 -0700
Message-Id: <9009211552.AA02228@aerospace.aero.org>
X-Ph(3.1)-To: cziko@ux1.cso.uiuc.edu
To: g-cziko@uiuc.edu
Subject: CSGnet -Trendy Science
Date: Fri, 21 Sep 90 08:52:04 -0700

OK, here is the information on the "paradigm shift" article from my previous post. The article is by Kenyon B. De Green who is a professor at the Institute of Safety and Systems Management at the University of Southern California (right near me). He has one article that might be of general interest (that is, of interest to those of you who are not human factors engineers):

De Green, K.B. (in press) Supplementary systems paradigms for different stages of societal evolution with special reference to war and peace, Systems Research, 7(2)

This De Green fellow is really interesting: he says the right things for (what I believe are) the wrong reasons. For example, he says that the "legacy of behaviorism should be rejected" (but he does not say why, other than that psychology has gone along under the influence of this paradigm for a long time with no change) and, best of all, that "the basic research design paradigm that goes back 50 years or more to R.A. Fisher...should be reevaluated" (again, it seems to be how long and idea has been in vogue rather than whether it works or not).

I might try to write to De Green personally to see if he might be interested in our paradigm shift. But I bet he won't be because control theory (whatever else might be good about it) is not trendy; the dissipative structure school of systems theory is trendy. VERY trendy. I just opened the LA Times today and found another article on Artificial Life. I haven't read it all but I know that the Artificial Life group is becoming the new hot item -- an intimidating mix of all the current, trendy approaches to living systems: neural networks, non-linear systems, dissipative structures, parallel architectures, and so on.

I think the message for control theory is clear: get a big corporate sponser and a good PR firm or just do basement science for the rest of your life and hope some archeologist in the year 2050 picks up some snatches of your research reports amid the rubble.

OK, I am just a tad cynical but, hey, it's the weekend.

Have a great one.

Rick M

Richard S. Marken USMail: 10459 Holman Ave
The Aerospace Corporation Los Angeles, CA 90024
Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)

From ???@??? Fri Sep 21 11:14:33 1990

Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA07663
(5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 11:09:47 -0500
Message-Id: <9009211609.AA07663@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX)
with
BSMTP id 3380; Fri, 21 Sep 90 11:10:09 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 3374; Fri, 21 Sep 90 11:10:07 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 2900; Fri, 21 Sep
1990
11:10:06 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: by UIUCVMD (Mailer R2.07) id 2897; Fri, 21 Sep 90 10:56:34 CDT
Date: Fri, 21 Sep 90 10:56:33 CDT
From: Revised List Processor (1.6d) <LISTSERV@vmd.cso.uiuc.edu>
Subject: Your removal from the CSG-L list
To: 1MA01@luccpua.bitnet
Cc: CZIKO@uiucvmd.bitnet, LISTOWNER@uiucvmd.bitnet

Dear subscriber,

As of Friday, September the 21st of 1990, you have been removed from
the
CSG-L distribution list (CSG distribution list) by Bruce
Gletty
<GLETTY@UIUCVMD>.

Virtually,

The LISTSERV management

From ???@??? Fri Sep 21 12:35:54 1990
Received: by ux1.cso.uiuc.edu id AA21291 (5.64+/IDA-1.3.4 for cziko); Fri, 21
Sep 90 12:21:50 -0500
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA20826
(5.64+/IDA-1.3.4 for g-cziko); Fri, 21 Sep 90 12:20:05 -0500
Date: Fri, 21 Sep 90 12:20:05 -0500
Message-Id: <9009211720.AA20826@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)dcarp@sbu.edu,
(CLELAND_Dave:_St_Bonaventure_U)$l$ma01@luccpua.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet
From: marken@aerospace.aero.org (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: CSGnet -Trendy Science

OK, here is the information on the "paradigm shift" article from my
previous
post. The article is by Kenyon B. De Green who is a professor at the
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Have a great one.

Rick M

Richard S. Marken USMail: 10459 Holman Ave
The Aerospace Corporation Los Angeles, CA 90024
Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)

From ???@??? Fri Sep 21 12:35:57 1990
Received: by ux1.cso.uiuc.edu id AA21435 (5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 12:21:55 -0500
Received: from mac70.ed.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA20876 (5.64+/IDA-1.3.4 for g-cziko); Fri, 21 Sep 90 12:20:21 -0500
Date: Fri, 21 Sep 90 12:20:21 -0500
Message-Id: <9009211720.AA20876@ux1.cso.uiuc.edu>
X-Ph: V3.2@ux1.cso.uiuc.edu
To: (BOURBON_Tom:_Stephen_F._Austin_U;Nacogdoches_TX)tbourbon@sfaustin.bitnet,
(CAMPBELL_Donald_T._:Lehigh_U;_Bethlehem_PA)dtc0@lehigh.bitnet,
(CARPENTER_Dave:_Barat_College)dcarp@sbu.edu,
(CLELAND_Dave:_St_Bonaventure_U)$l$ma01@luccpua.bitnet,
(CZIKO_Gary_A.:_U_Illinois_at_Urbana:_Bitnet:cziko@uiucvmd)g-cziko@uiuc.edu,
(DEACON_Keith)kdeacon@inetg1.arco.com,
(DELPRATO_Dennis;_Eastern_Michigan_U)delprato@um.cc.umich.edu,
(HERSHBERGER_Wayne;_Northern_Illinois_U)tj0wah1@niu.bitnet,
(MARKEN_Rick;_Aerospace_Corp;_Los_Angeles_CA)marken@aerospace.aero.org,
(MCCORD_David;_Western_Carolina_U)mccord@wcuvax1.bitnet,
(MCPHAIL_Clark:_U_Illinois_at_Urbana-Champaign)cmcphail@uiucvmd.bitnet,
(PETRIE_Hugh:_SUNY_Buffalo_NY)prohugh@ubvmsc.cc.buffalo.edu,
(THORNGATE_Warren:_Carleton_U;_Psych;_Ottawa_Canada)wthorngt@carleton.bitnet,
(TUCKER_Charles_[Chuck]_W.;_U_South_Carolina)n050024@univscvm.bitnet

From: "CHARLES W. TUCKER" <N050024@UNIVSCVM> (by way of (Gary A. Cziko) g-cziko@uiuc.edu)
Subject: A brief note to CSGNET

Dear CSGNET,

I think it is wonderful that we can communicate our ideas by e-mail and write about those matters that disturb us and try to come to some resolution to these difficulties. I want to encourage it and I am trying to save all of our communications. I will even contribute when I think I can be helpful. I don't think that we should set ourselves up for errors and problems. i think it will result in an error it we believe that we will have discernable effect on changing the way most social and behavioral scientist explain their experiences and their "world". Clark and I and several others have been working on this for at least 25 years (some like Blumer for 50) to make dent in social psychology w/o a great deal of success. Clark has worked for 20 years trying to alter the view of collective behavior in sociology with a few successes but the intro texts have not changed since 1939. So what is the use of it all?

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I will write when I can sit down and read carefully what was written today. Have a good weekend celebrating the one year anniversary of HUGO.

Chuck

From ???@??? Fri Sep 21 14:58:27 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA16942

(5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 14:29:39 -0500
Message-Id: <9009211929.AA16942@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 1946; Fri, 21 Sep 90 14:30:04 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 1945; Fri, 21 Sep 90 14:30:03 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 1457; Fri, 21 Sep
1990
14:30:03 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP
id
1454; Fri, 21 Sep 90 14:16:28 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with
BSMTP
id 0640; Fri, 21 Sep 90 15:14:54 EDT
Date: Fri, 21 Sep 90 15:09:07 EDT
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Subject: LISTSERV LIST
To: "GARY A. CZIKO" <CZIKO@vmd.cso.uiuc.edu>

I THINK THAT IT IS GREAT TO HAVE OUR LIST ON LIST SERV BUT SOME OF THE FOLKS ON THE LIST MAY HAVE NEVER USED LISTSERV FUNCTION BEFORE AND PROBABLY SHOULD BE SENT THE LIST OF COMMANDS. FOR EXAMPLE I TRIED TO GET THE LOG THAT YOU MENTIONED AND LISTSERV SAID THAT CSG-L WAS NOT A PROPER ADDRESS. IT IS PROBALY THE CASE THAT IT IS NOT RECORDED YET. I USED THIS COMMAND:

TELL LISTSERV SEND CSG-L LOG9009C

WHICH IS A COMMAND I USE FOR MY OTHER LISTSERV LISTS - IS THIS THE PROPER COMMAND OR ARE THEIR SOME NEW FEATURES ON LISTSERV THAT I SHOULD KNOW ABOUT? ["GET" REPLACED FOR "SEND" GETS THE SAME MESSAGE]. SO WHEN YOU DO LISTSERV TELL ENTIRE COMMAND VERBATIM TO BE USED OR IT WON'T HAPPEN.
REGARDS CHUCK

From ???@??? Fri Sep 21 14:58:31 1990
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA16985
(5.64+/IDA-1.3.4 for cziko); Fri, 21 Sep 90 14:29:43 -0500
Message-Id: <9009211929.AA16985@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 1950; Fri, 21 Sep 90 14:30:06 CDT
Received: from vmd.cso.uiuc.edu (MAILFWDR) by VMD.CSO.UIUC.EDU (Mailer R2.07)
with BSMTP id 1948; Fri, 21 Sep 90 14:30:04 CDT
Received: by MAILFWDR.vmd.cso.uiuc.edu (MAILFWD V1.1) id 1770; Fri, 21 Sep
1990
14:30:03 CDT
X-Forwarded-From: CZIKO@vmd.cso.uiuc.edu
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP
id
1766; Fri, 21 Sep 90 14:25:37 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with
BSMTP
id 0661; Fri, 21 Sep 90 15:24:01 EDT
Resent-Date: Fri, 21 Sep 90 15:22:22 EDT
Resent-From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Resent-To: "GARY A. CZIKO" <CZIKO@vmd.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by UNIVSCVM.BITNET (Mailer R2.03B) with BSMTP
id
0655; Fri, 21 Sep 90 15:21:10 EDT
Received: by UIUCVMD (Mailer R2.07) id 1628; Fri, 21 Sep 90 14:21:44 CDT
Date: Fri, 21 Sep 90 14:21:43 CDT

From: Revised List Processor (1.6d) <LISTSERV@vmd.cso.uiuc.edu>
Subject: Rejected posting to CSG-L@UIUCVMD
To: N050024@univscvm.bitnet

I THINK THAT THERE IS A BUG HERE SOMEWHERE BUT HAVING NEVER SET UP A LIST
I CAN'T SAY WHAT IT IS - MAY BE JUST A TIMING PROBLEM - TOO EARLY CHUCK
----------Original message----------
You are not authorized to mail to list CSG-L. Your message is being returned to
you unprocessed. If you have any question regarding authorization to use the
CSG-L list, please contact one the list owners, whose names and addresses are
listed below:

CZIKO@UIUCVMD
LISTOWNER@UIUCVMD

---------- Rejected message (13 lines) ----------
Received: from UNIVSCVM.BITNET by VMD.CSO.UIUC.EDU (Mailer R2.07) with BSMTP id
1554; Fri, 21 Sep 90 14:19:45 CDT
Received: from UNIVSCVM (N050024) by UNIVSCVM.BITNET (Mailer R2.03B) with BSMTP
id 0651; Fri, 21 Sep 90 15:18:07 EDT
Date: Fri, 21 Sep 90 15:16:39 EDT
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Subject: TESTING THE LISTSERV FOR BUGS
To: "CONTROL SYSTEMS GROUP E-MAIL LIST [GARY]" <CSG-L@UIUCVMD>

NO NEWS IS GOOD NEWS ON THIS ONE; THE LISTSERV WILL TELL IF THERE IS AN
ERROR.

SORRY TO BOTHER YOU ALL CHUCK

From ???@??? Mon Sep 24 07:55:52 1990
Received: by ux1.cso.uiuc.edu id AA12185 (5.64+/IDA-1.3.4 for cziko); Fri, 21
Sep 90 16:19:24 -0500
Received: from vmd.cso.uiuc.edu by ux1.cso.uiuc.edu with SMTP id AA12172
(5.64+/IDA-1.3.4 for g-cziko); Fri, 21 Sep 90 16:19:19 -0500
Message-Id: <9009212119.AA12172@ux1.cso.uiuc.edu>
Received: from VMD.CSO.UIUC.EDU by VMD.CSO.UIUC.EDU (IBM VM SMTP R1.2.2MX) with
BSMTP id 7678; Fri, 21 Sep 90 16:19:45 CDT
Received: by UIUCVMD (Mailer R2.07) id 7657; Fri, 21 Sep 90 16:16:09 CDT

==========
Date: Thu, 20 Sep 90 15:07:45 -0500
Reply-To: CSG distribution list <CSG-L@UIUCVMD>
Sender: CSG distribution list <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: List Server test

This is a test of our new list server which will automatically forward mail
to all CSGnet members.

If this works, you will soon have a new address to which to send CSGnet
items.

This is only a test. No response is necessary. I need to see how many
messages get bounced back.--Gary

Gary A. Cziko Telephone: 217/333-4382

Associate Professor of Educational Psychology FAX: 217/333-5847
Bureau of Educational Research Internet: g-cziko@uiuc.edu
1310 S. 6th Street-Room 230 Bitnet: cziko@uiucvmd
Champaign, Illinois 61820-6990
USA

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Date: Fri, 21 Sep 90 13:04:57 -0500
Reply-To: Control Systems Groups Network CSGnet <CSG-L@UIUCVMD>
Sender: Control Systems Groups Network CSGnet <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: IMPORTANT CHANGE!

Dear CSGnet People:

I have now set up our network as a LIST SERVER. This means that instead of sending messages for the network to me, you should now send them to:

CSG-L@UIUCVMD (Bitnet address) OR
CSG-L@VMD.CSO.UIUC.EDU (Internet address)

(The L separated from CSG stands for "list")

Mail sent to this address should be automatically distributed to everyone on the list. This will not make a big difference for anyone except me since I will no longer have to redistribute messages manually.

Keep in mind that if you reply to a message from CSG-L, it will also go to the entire network. For private email, you must put in the address of your correspondent.

Since you will no longer get a list of all participants and their addresses with each distributed message, you may want to communicate with the listserver to get an up-to-date address list whenever you want. To do this, send a mail message to:

LISTSERV@UIUCVMD (Bitnet) or LISTSERV@VMD.CSO.UIUC.EDU (Internet)

and in the text of your message include the command:

REVIEW CSG-L

You will then be sent a list of current CSG-L "subscribers". (You sophisticated guys can also use the TELL command on CMS and then receive the file off your reader.)

This system will also allow us to use CSG-L as a file server for storing and distributing files. I can develop this if the needs develops.

* *

What is important in all this, however, is that all message to CSGnet should now be addressed to:

CSG-L@UIUCVMD (Bitnet address) or

CSG-L@VMD.CSO.UIUC.EDU (Internet address)

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Date: Fri, 21 Sep 90 13:06:32 -0500
Reply-To: Control Systems Groups Network CSGnet <CSG-L@UIUCVMD>
Sender: Control Systems Groups Network CSGnet <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU

get csg-l log9009c

Gary A. Cziko Telephone: 217/333-4382
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1310 S. 6th Street-Room 230 Bitnet: cziko@uiucvmd
Champaign, Illinois 61820-6990
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Date: Fri, 21 Sep 90 14:12:04 -0700
Reply-To: "Control Systems Groups Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Groups Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: On Behaviorism

Dennis

Thanks for your two excellent posts on behaviorism and field theory. I would like to respond to one point in your article, namely, your appeal

> that control theorists tone down the anti-behaviorism talk.

I want to do this right away since you are likely to see an "anti-behaviorist" sentiment reflected in one of my latest posts. So let me try to explain my "anti-behaviorist" stance. First, I should quickly note that some of my favorite people, personally, are, or have been, behaviorists. I am anti the behaviorist model (or implied model) of human nature. Behaviorists themselves (like every other group) has some nice folks and some assholes. So I am not "anti-behaviorist" like some people are "anti-black" or "anti-semetic".

Anyway, part of your appeal for appreciation of behaviorism (or, at least, for aspects thereof) is based on the following:

> Skinner's emphasis on the consequences of
> behavior (as he puts it) <has> led some to take feedback
> (feedback functions) as the bedrock of their research and
> theory. These workers are as little appreciated as are
> other feedback theorists. I am referring to the Staddons
> and Baums who speak of molar analysis. Feedback control
> theorists seem to not approve of the approach taken by the
> molar analysts; however, it is possible that there are some
> interesting bridges here that could be looked into. I

This is all fine and dandy and I'm glad that some behaviorists seem to be interested in feedback and all that. My problems with behaviorists go somewhat deeper. For all their talk about feedback, circular causality, reciprocal control and purposefulness, their basic conception seems to be that behavior is controlled. There is a very deep conceptual difference between a concept of behavior being shaped by the environment and behavior that shapes the environment. The behaviorist concept of purposeful behavior does not have much punch. Animal purposes are seen as being determined rather than being the determiners.

Verbally, the difference between behaviorists and control theorists may be small. But the real gulf between them is revealed by practice, not words. Behaviorists don't ask the questions or study behavior in the way they would if they really understood what it means to control (be purposeful). I have yet to see a behaviorist study where the goal was to identify

a controlled variable and to test a model of how the variable is controlled. Control theorists do this kind of research all the time because it is the only kind of research that makes sense if you are dealing with a purposeful creature.

I had this argument with a cyberneticist at the Gordon conference who was explaining to me that cyberneticists (you know, the snake swallowing its tale type) already knew all about control theory. Not only that, she said they already were doing their research in the context of an understanding of control theory. I pointed out, in my usual rude and heavy-handed way, that if that were true then why had I never seen any studies where controlled variables were hypothesized and these hypotheses tested by looking for lack of effect of disturbance, etc etc. Well, that went over like a lead balloon. I think that people who don't understand control theory don't really even know what you are talking about when you discuss what you are trying to find out in your research. Try it. Say to one of these behaviorists who knows all about feedback and closed loop control "Hi, I'm interested in finding out what variables organisms are controlling". Just when you think you've made human contact you get the reply "Sure, you want to know what variables control their behavior". Ah well.

Control theory implies a very different point of view about what behavior is all about. Behavior is seen as purposeful, in a very deep sense. Organisms want things to happen in particular ways and they do whatever is necessary to get things to be that way. This is very different from the behavioristic conception which views behavior as outputs that are emitted by the organism. The behaviorist sees "purpose" in the fact that the consequences of some of these emitted outputs "select" these outputs, making them more likely. Thus, the organism's repetiore of behaviors is shaped by the environment.

But, again, it is not what the behaviorists say that gives me a problem; it's what they do (and don't do) that reveals the misconception. It seems like a small step to move from research based on the idea that consequences control behavior to research based on the more plausible proposition that behavior controls consequences. But I don't see it happening. This little difference is the Grand Canyon to behaviorists. And it is a canyon they (the behaviorists) have to cross (if they want to), not me. I'm afraid that the difference between behaviorism and control theory is clear; and the behaviorists are just plain WRONG because the environment does not control behavior (as Powers and I have shown in many experiments)) and control theory is RIGHT because behavior does control the environment (as shown in many CSG demos). I'd love to compromise with the behaviorists but that would require them to show me that the environment really does control behavior. I tried to do one such demonstration of environmental control(in my random consequences experiment) but it turned out that the organism was in control, not the environment.

I am happy to compromise on any theoretical differences I might have with behaviorists (though I have a preference for working models and the behaviorists would have to show me that their models WORK). But, when the behaviorists start DOING control theory, then I'll be happy to join them.

Hasta Luego

Rick

Richard S. Marken
The Aerospace Corporation
Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)

USMail: 10459 Holman Ave
Los Angeles, CA 90024

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Date: Mon, 24 Sep 90 08:43:24 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: "Dennis Delprato by way of Gary A. Cziko g-cziko@uiuc.edu" <USERXEAK@UMICHUM.BITNET>
Subject: "Correcting Behaviorism"

REALLY FROM: Dennis <DELPRATO@UM.CC.UMICH.EDU> Sept. 22

This is especially in response to Rick's "On Behaviorism" posting of 9-21.

I agree with everything you said and would like to first clarify something. I do not advocate that a compromise on theoretical differences with one or another of today's behaviorisms would be progressive. More on this below.Y Your comments lead me to the following.

Your suggestion to ask those of the operant persuasion to identify what just variables organisms are controlling is a most cogent one to pose. For even though the operant construct is supposed to refer to organisms acting on their environment, it takes a control theory perspective to ask the question. I suspect that a common answer will be something like, "Environmental variables, of course," "Rate of food delivery," "Rate of shock." Then, we say, "So, rate of food delivery is an independent variable?" Those involved with "feedback functions" would not agree that rate of food delivery is an independent variable and would go on to explain how we must identify "other" environmentalY controlling variables--at least until control theorists do research to demonstrate this is not the preferred starting point for a model. This takes me to the following.

Here is my alternative to a theoretical compromise. I suggest that the feedback function-oriented work of the molar behaviorists (forget the other "behaviorists") is in the right direction, but that what is needed is work extending it. I would like to participate in orchestrating a statement that would be entitled something like "From Feedback Functions to Control System Models" or the like. By way of background I cite two papers. One is Timberlake (Journal of the Experimental Analysis of Behavior, 1984, 41, 355-375, also see Comments and Timberlake's reply, pp. 383-386. The other (I know you know of it) is Myerson and Miezin (Psycho. Rev., 1980, 87, 160-174).

Both are quite sympathetic to Bill's theory, but they just don't quite cross the gap--and it just may not be the magnitude of the Grand Canyon. One could take off from either Timberlake or Myerson and Miezin. For starters, lets consider the latter. On Page 172, after noting the compatibility between what they did and Bill's approach, they mention two limitations of control theory. One is that reference levels are not always needed to adequately describe behavioral systems. They cite Milhorn (1966) and Rosen (1970) on this; I haven't gone back to these books to try to make all the connections, but this claim doesn't seem to be that difficult to overcome. The other shortcoming offered is the claim that control theory doesn't "account for a system's transient response to changes in input" and

that this is "a most important test of any model." I have no idea of the modeling here, but conceptually I see control theory hardly silent on the system's adjustment to disturbances! Can those of you who are adept with the specifics offer any comments on these points?

Let me suggest this. We have the facilities here for data collection. We are especially set up for rats, although pigeons are possible also. How about a collaborative effort that takes off in a constructive way from either of the two above papers? I am interested in becoming more adept with the guts of control theory and see this sort of undertaking as of great value for such purposes. Let's come up with a specific experiment that stands a chance of moving "from feedback functions to control theory." Any suggestions?

Dennis

Dennis J. Delprato E-MAIL: DELPRATO@UM.CC.UMICH.EDU
Department of Psychology
Eastern Michigan University
Ypsilanti, MI 48197

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Date: Mon, 24 Sep 90 09:48:00 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: David McCord/Psych <MCCORD@WCUVAX1.BITNET>
Subject: Powers Workshop 10/19/90

To All Interested CSG Members,

Bill Powers is coming to Western Carolina University through the Visiting Scholars Program on Friday, October 19th. He will give a two-part workshop entitled "Introduction to Control Theory" based on his DEMO1 computer-based program. These sessions will run from 9:00 to noon and then from 1:00 to 3:30 p.m. I anticipate about 25 or 30 attendees from a variety of disciplines (psychology, biology, anthropology, computer sciences, education, and so forth). Bill will then address a larger audience at 4:00 p.m. entitled "How we can use control theory in the life sciences." I predict an audience of about 50 or 60 for this one-hour presentation. Finally, we will have a reception for Bill at my house in traditional Cullowhee style, bring an hoers d'oevres, beer and wine provided.

Obviously, most attendees will be faculty and graduate students from WCU, though Chuck Tucker may drive over from Columbia. I would be glad to have any other CSG members who would like to come. Let me know if you need David help in arranging lodging, etc.

David M. McCord, Ph.D.
Department of Psychology
Western Carolina University
Cullowhee, NC 28723
(704) 227-7361
mccord@wcuvax1.bitnet

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Date: Mon, 24 Sep 90 10:24:38 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM.BITNET>
Subject: I am testing since I have received some messages

On Friday I got my message rejected but since then I have received several messages from the list. This is just a test so just treat it as a hello to everyone on the list.

Chuck

Charles W. Tucker (Chuck)
Department of Sociology
University of South Carolina
Columbia SC 29208
O (803) 777-3123 or 777-6730
H (803) 254-0136 or 237-9210
BITNET: N050024 AT UNIVSCVM

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Date: Mon, 24 Sep 90 00:05:03 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested
From: RLPSYU08 <TBOURBON@SFAUSTIN.BITNET>
Subject: PUBLISHING

Group,
Wayne's point is well taken: the broader audience for what we write might not have been born. Certainly they are not among the reviewers and editors who reject our work.
During a recent conversation with Bill Williams nother of our members with no access to the network), we discussed the problem gestations, and rewritings, of our papers is that many other CST people have no idea of what an author is doing. Might we be at the point where we could circulate collections of manuscripts, as preprints or drafts, on which others in our group could make suggestions, and by means of which we could all track the progress being made by an author?
If the time is right, I can probably solicit a modest contribution from my university to support the effort -- duplicating costs, postage, etc. Let me know your thoughts on this.

Tom Bourbon <TBourbon@SFAustin.BITNet>

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Date: Mon, 24 Sep 90 13:20:11 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: Re: Info requested

Dear CSGnet:

Here is a response from someone on the cybernetics and systems netowrk (CYBSYS-L) to my introduction that I am interested in universal selection theory a la Don Campbell and control theory a la Bill Powers.

I do not know the magazine he refers to, but it may be worth a look.--Gary

>Date: Mon, 24 Sep 90 09:39:11 EDT
>Reply-To: Cybernetics and Systems <CYBSYS-L@bingvmb.bitnet>

>Sender: Cybernetics and Systems <CYBSYS-L@bingvmb.bitnet>
>X-Ph: V3.2@ux1.cso.uiuc.edu
>From: CYBSYS-L Moderator <cybsys@bingvaxu.cc.binghamton.edu>
>Subject: Re: Info requested
>To: "Gary A. Cziko" <g-cziko@UIUC.EDU>
>
>Really-From: Jamer <PET101@UKCC.uky.edu>
>Date: Mon, 24 Sep 90 00:28:45 EDT
>
>Whoa...
>
> Those are some pretty broad subjects...and guess what? I find them
>unbelievably amazing!! A very good source of info that I've found is a
>magazine called MONDO 2000... Issue number 2 (summer 1990) just came out
>recently, and it addresses all of your questions.
>
> Their address is PO Box 10171
> Berkeley CA 94709-5171
>
> A subscription is $US24 for six issues, or cover price is $5.95. I'd
>be pleased to hear about your other responses...
>
>Jamer
><pet101@UKCC.uky.edu>
>
>

Gary A. Cziko Telephone: 217/333-4382
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Date: Mon, 24 Sep 90 13:21:56 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU

get csg-l log9009a
get csg-l log9009b
get csg-l log9009c
get csg-l log9009d

Gary A. Cziko Telephone: 217/333-4382
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1310 S. 6th Street-Room 230 Bitnet: cziko@uiucvmd
Champaign, Illinois 61820-6990
USA

==========

Date: Mon, 24 Sep 90 19:12:22 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: Dennis_Delprato@UM.CC.UMICH.EDU

REALLY FROM: Dennis <DELPRATO@UM.CC.UMICH.EDU>
Gary,
Can you explain the cryptic messages I`ve received that
contain one of more lines such as:
get csg-1 log9009a
My guess is that these are somehow related to the listserver?
My previous authorization failure to post on csgNET wouldn't
have been related to a typo. It must have been tied to the

user name situation. I'll have to look into the reason that
I seem to have two such names.
Dennis Delprato
Ypsilanti, MI

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Date: Mon, 24 Sep 90 21:33:56 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: Dennis_Delprato@UM.CC.UMICH.EDU
Subject: Appreciation for Feedback

REALLY FROM: Dennis <DELPRATO@UM.CC.UMICH.EDU>

When the history of feedback control in behavioral science is written, it appears that operant behaviorism will be recognized for its inchoation. On Page 73 of his <Psychol. Rec., 1961, v. 11> paper entitled "Is the system approach of engineering psychology applicable to social organizations?", Verhave states, "One of the first to conceive explicitly of a systems type of feedback arrangement ina social system was B. F. Skinner. The notion is described in his novel 'Walden Two.' The feedback ideas contained in this book were the starting point of my own thoughts concerning the application of operant techniques in industry and other social systems." Bill (in a 1961? Behav. Sci. paper) applied his model to Verhave's rat data. I wonder if Verhave ever saw Bill's work!

In a way it is unfortunate that operant psychologists have not discovered control theory. They have been trying to figure out relationship between "reinforcement" and "feedback" ever since I have known them. At least they are not in the anti-feedback camp touting ballistic action and how convincing are the deafferentation studies.

Dennis Delprato
Ypsilanti, MI
9-24-90

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Date: Tue, 25 Sep 90 08:28:13 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: Re: Control Systems Group

>
>Professor Cziko,
> Please place me on your Control Systems Group Email list.
>
>Thank you,
>
>Roy Eagleson (519) 661-2063 CDN: elroy@uwo.ca
>Centre for Cognitive Science FAX: 661-3029 elroy@cogsci.uwo.ca
>Social Science Building, Rm 7332 EDU: elroy@ai.toronto.edu
>University of Western Ontario BITNET: eagleson@uwovax.bitnet
>London, Ontario ARPA: elroy%ai.toronto.edu@relay.cs.net
>CANADA N6A 5C2 elroy@julian.uucp (...watmath!julian!elroy)
>
>

Professor Eagleson:

You have been added to the list.

It would be appreciated if you would submit a personal introduction to CSG-L. This, as well as all public messages should be submitted to "csg-l@uiucvmd.bitnet" or "csg-l@vmd.cso.uiuc.edu" (internet).

A list of subscribers to CSG-L can be had by sending the following command

to "listserv@uiucvmd.bitnet" or to "listserv@vmd.cso.uiuc.edu" (internet):

REVIEW CSG-L

Welcome aboard.--Gary

Gary A. Cziko Telephone: 217/333-4382
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USA

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Date: Tue, 25 Sep 90 08:46:14 -0700
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: Controlled Variables

Dennis:
I would love to do some collaborative operant type control theory work with you. If you can test the animals we can both come up with the experiments. I think that testing control theory with animal subjects would be particularly worthwhile for several reasons:

1) In human tracking tasks you tell someone "have, as your goal, to keep the cursor near the target". When the subject carries out this purpose it is not surprising. You can't talk to (most) animals. So if you can find out "the animal has the goal of such and such" then you have done something surprising -- like reading the animal's mind.

2) Other than Bill's Behavioral Science paper there is no good work on control theory with animals.

3) It is challenging and any results you get can't be attributed to attempts by the subject to be cooperative.

There are probably many other good reasons but let's get to work. There are two types of studies you might want to do

1) Feeding studies like those done by Timberlake. It looks like rats try to maintain a pretty contstant level of food input (measured as the weight consumed per unit time). This variable could be disturbed easily by changing (slowly) the size of the food pellets delivered. The output (responses) should vary appropriately to keep the food input constant. This kind of study just takes advantage of a built in fixed reference. The goal would be to determine whether the controlled variable is rate of food input, probability of food input or something else that is similar.

2) Control of other variables like those in human tracking studies. The rat must do something in order to get the food. That "something" is a controlled variable from our point of view. So if the rat presses a bar to get food then some aspect(s) of what we see as a bar press might be controlled. It might be just the position of the lever but I bet the rate of lever movement also matters. If it's just position then fluctuations in the push back force of the lever would not be resisted. But if the rat is controlling a transition, then such disturbances would be resisted: the rat is controlling something like the acceleration (force) on the lever.

Any other suggestions from other CSGnet members, especially those who know a lot about animals and operant conditioning, would be most welcome.

Note to David McCord:
Boy do I wish I could come out there to hear Bill's talk. If it is at all possible, do you think you could post a summary of the meeting. How it went, any new insights, whatever. Thanks

Note to Chuck Tucker,
Thanks for the references. Is this fun or what?

Hasta Luego

Rick M.
9/25/90

Richard S. Marken USMail: 10459 Holman Ave
The Aerospace Corporation Los Angeles, CA 90024
Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)
==========
Date: Tue, 25 Sep 90 12:35:35 -0700
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: Principles of control - the gut level

Behind all the details and technicalities of a theory is a gut level point of view. The Newtonian model of the universe came along with a gut level point of view that was ultimately articulated by, I think, LaPlace who claimed that, if given all the information about the current state of the universe he could predict it's future. Chaos and quantum theories were exciting because they called this view into question. Similarly, the natural selection theory of evolution had, behind it, a point of view that was instantly detected by theologians -- life, consciousness, humans emerged from the slime by natural (and somewhat blind-- but control theory will fix up that idea) processes.

There is a basic, gut level point of view that goes along with control theory -- behavior (all purposeful behavior) is the control of perception. The details of control theory have to do with feedback loops, gain and dynamics, perceptual processing and efferent transduction. But the guts of theory really have to do with this deep and enveloping point of view; to behave is (really) to manipulate your own perceptual experience (relative to your own, unperceived specifications for what that experience should be).

Psychologists have often correctly used the details of control theory as part of their modeling efforts. What seems to be the problem is that there is a real reluctance to absorb the control theory point of view. These thoughts are motivated by a technical article that I am reading: It is by Michael I Jordan, who seems to be one of the rising stars in the field of "motor control". The article is called "Motor learning and the degrees of freedom problem" and it appears in "Attention and Performance XIII", M. Jeannerod (ED.), Erlbaum & Associates, 1990. The paper describes his model for controlling multiple degrees of freedom to produce intended results.

The details of the model are not important for now: what is interesting is that the model is based on the idea that producing intended results requires computation of the appropriate values for all the output degrees of freedom. In simple terms, it is a response generation model. The innovation is that these outputs are generated so as to meet constraints which means, basically, that outputs are generated so that the results that "would" be produced match the intended results. This is just a control model where the feedback is the results that "would be produced" rather than the results that are being produced. Since the results that are actually produced as a result of this calculation are likely to be different than the intended results anyway, the model uses

"lower level feedback systems" to correct these errors.

What is interesting about this article is the lengths that the author goes to to avoid seeing the whole behavioral picture in terms of control theory. The details of this author's model are completely consistent with control theory. There is a comparison between actual and intended results. A discrepency leads to change in the outputs so as to reduce the discrepency. The fact that the model acts on "would be" rather than actual, perceived results could be considered simply a difference of details. The author clearly recognizes the need for feedback control to fix things up when the responses are actually performed. But the autho does not get the gut level implications of control theory. So an unnecessarily complex model is developed; one which is consistent with the gut level point of view of the prevailing behaviorist/cognitive theory*: that behavior is the control of responses.

I think tht many life scientists actually understand and accept the details of the control theory model. What they don't seem to be willing to accept is the gut level point of view of this model. Perhaps this can best be understood in term of the hierarchy of perception. The control model exists as a program, principle and even system level perception (as does the behaviorist/cognitive theory). Jordan and others are able to deal with the control model at the program level but they need to see it as consistent with behaviorist/ cognitive principles. I think these principles are the "gut level" point of view I have been talking about. Since aspects of the control model conflict with behaviorist/cognitive principles, there will be variations in the control model (or description thereof) that make it seem consistent with these principles. This is exactly what Jourdan has done so clearly in his article.

The moral: it is not enough to teach people the control model (a program level perception). We have to get people to understand a new principle (behavior is the control of perception). And this means that we have to show, not only that the model is correct but that the principle itself is correct (and that the conflicting principle -- behavior is the control of responses -- is wrong. After writing this I realize that this is what most of my research has actually been about. I had been looking at it at the wrong level myself. I'm not just trying to show that the control model works. I have been trying to show that the principle upon which it is based is actually better than its (currently) only alternative.

* I have just coined a new term, behaviorist/cognitive theory. I think it might be a good idea for control theorists to use this term to describe the opposition in order to reduce the number of times we have to be told that we are "beating a dead horse"or that "cognitive psych has already solved those problems".

Hasta Luego

Rick M.

Richard S. Marken USMail: 10459 Holman Ave
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Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)

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Date: Wed, 26 Sep 90 08:40:23 EDT
Reply-To: Cybernetics and Systems <CYBSYS-L@BINGVMB>

Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Resent-From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Comments: Originally-From: CYBSYS-L Moderator
<cybsys@bingvaxu.cc.binghamton.edu>
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM.BITNET>
Subject: Re: Consensual Reality

This is the stuff that is on the cybernetic network. Some of them hav
been discussing this for weeks. My my. Chuck
----------Original message----------
Really-From: GORDON_A@CUBLDR.Colorado.EDU
Date: Tue, 25 Sep 90 13:50 MST

<Really-From: mmt@dretor.dciem.dnd.ca
<Date: Tue, 18 Sep 90 16:30:03 EDT

<<Brian Yamauchi says:

<<While solipsism is, at least in theory, self-consistent, consensual reality
<<seems to be self-contradictory. How can one refuse to believe that their
<<senses provide information about objective reality, and at the same time
<<believe that other people exist? How do you know that these "other people"
<<are not merely figments of your imagination?

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<I perceive a little word-play here. The "senses provide information about
<objective reality" is not the same as "the senses provide accurate and
<unique representations of objective reality." Yamauchi's ending to the
<sentence makes the implication that they are. Eliminating solipsism, one
<must accept that the senses provide information about objective reality.
<One need not accept that everyone makes the same inferences from this
<information, or even if they do, that those inferences correspond to
<objective reality. Optical illusions do exist, to which enough people
<are subject that a consensual test would differ from an "objective test"
<such as a ruler measurement.

One problem with the ruler test being objective is that the ruler is subject
to alterations of length analogous to the 'red shift' observed in distant
stars.
We don't perceive the alteration since we are subject to the same alteration.
However, to a hypothetical objective observer, outside of this inertial frame
of reference, such a shift would indeed be perceived. Thus, are not objective
tests relative?

<What happens if the whole world provides a cognitive illusio about something
<for which we have no "ruler"? All we can rely on, it seems to me, is that
<we have successfully (so far) evolved to survive in the real world despite
<(or because of) this cognitive illusion, and that it cannot be a very
<severe distortion of at least the opportunities and hazards of the
<real world.

We can say the same is true for frogs.

Aside from whatever our senses do to modify the inputs, there is an additional
psychological component, that the last argument above attempts to rationalize
rather than deal with. That is if our senses present everyone with the same
sensory information, what we do cognitively with that information is subject
to individual whimsey. We all, for example have our "knee jerk" reactions to
things, both on the gross level as well as on the very subtle level.The task,
it seems to me, on that level, is to get
down and learn what we do on the psychological level in reaction to any given
perceptual stimulus. Then, we can subtract that from the perception to get
closer to what is really happening out there. This is applicable at least in

the world of social interactions, although I am not sure how it would apply to scientific observations, except that I suppose that we could influence the outcome of an experiment by the way the question is asked, ie., perceive the problem. Perhaps, then, there is some subliminal persuasion that keeps us asking the questions within a certain context, that keeps the answers also within that context. Once again, it would come down to learning more about our inner functioning, on at least a psychological level, to break out of that mold. There is something to be said for the ancient (and modern) mystical masters who have spent much of their lives in meditation. Regardless of the discline, east or west, christian or buddhist, there is much commonality in the world view espoused by such persons, and perhaps not so far removed from that espoused by the physicists either. Thus it would seem then, that the objective and the subjective have a common ground.

Allen Gordon

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Date: Wed, 26 Sep 90 08:43:34 EDT
Reply-To: Cybernetics and Systems <CYBSYS-L@BINGVMB>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Resent-From: "CHARLES W. TUCKER" <N050024@UNIVSCVM>
Comments: Originally-From: CYBSYS-L Moderator <cybsys@bingvaxu.cc.binghamton.edu>
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM.BITNET>
Subject: Submission to CYBSYS-L

And then there is this from a guy named David Wolpert who has yet to answer my request to his person address. Chuck

----------Original message----------

Really-From: dhw@tweety@LANL.GOV (David Wolpert)
Date: Tue, 25 Sep 90 11:14:36 MDT

Reply to Peter Cariani:

Peter writes "You put your ... device in some prepared reference state R in some ... context and let the device interact with the world, after which the device will come to rest in one of two or more output states."

Q: Is this a better description of computation or of observation? I'd say it describes both. Peter would claim it's a better description of an observation. I just plain don't see this. For a computer, the "prepared reference state" is the state of the computer when it's scanning its keyboard, waiting for a carriage return (e.g. the start state in a Turing machine); the "world" is the typist on that keyboard (e.g., the device writing the initial sequence onto the Turing machine's tape), and at the end of the computation, we "come to rest in one of two or more output states".

Peter goes on to say that "In the measuring device there are degrees of freedom which are left unspecified by the user; in the compu- tational device all degrees of freedom are specified and frozen out." Again, I just don't see this at all. For the computation, if it's to be at all interesting, then there most definitely *are* "unspecified" degrees of freedom, namely the human operator sending input into the program.

Peter, what's wrong with the following analogy?

"Observation": A: outside world, non-pre-determined (e.g. photons) ->

B: that part of a device open to the outside world (e.g. atoms with electrons bound by the exact same energy as those photons) ->

C: that part of a device which evolves in a reliable and deterministic way from the state of B (e.g. the electronics of a spectrum analyzer/photon counter) ->

D: that part of a device readable by a human (e.g. a digital readout)

"Computation": A: outside world, non-pre-determined (e.g. a typist) ->

B: that part of a device open to the outside world (e.g. a keyboard) ->

C: that part of a device which evolves in a reliable and deterministic way from the state of B (e.g. a computer program) ->

D: that part of a device readable by a human (e.g. a digital readout)

Peter writes:
"I think David would do well to take his own advice and to avoid reference to Copenhagen interpretations, at least until he reads and understands Heisenberg's 'Physics and Philosophy'."

Mmmm, careful, Peter. Heisenberg was writing quite a while ago. For an up-to-date review of the subject of 'observation' in quantum mechanics, I direct your attention to Wheeler and Zurek's tome "Quantum theory and measurement", which amongst other things is a compendium of all the important physics articles on the subject, including Everett's many-worlds interpretation, the interpretation favored by essentially all modern practicing physicists (e.g., Jim Hartle, Steven Hawking, Alan Shapere, Angelo Barbierri, and yours truly). The essential problem with the Copenhagen interpretation is that it posits a special non-unitary operator collapsing the Hilbert space vector describing the system down to a single eigenvector of the (assumed Hermitian) 'observation' operator. Unfortunately, Schrodinger's equation, the equation describing the dynamics of the system, determines the system's Hilber space trajectory in full, and therefore allows no room for such a special 'observation' operator. To put it another way, the Copenhagen interpretation explicitly assumes a dynamical operator *which is outside of the quantum mechanical formalism itself*. Where does this lead us, "meta" physics? As Everett showed, there is no need for such an operator, and even less physical evidence for one.

Unless you know of some way around this problem of which no modern physicist is aware, so long as you adhere to the Copenhagen interpretation I would be very careful in making airy statements about "reading and understanding" physics. I'd especially be careful about making such statements around physicists (like yours truly).

As far as Peter's talk about contingent events, I advise him to read those sections of Wheeler and Zurek dealing with Schrodinger's cat, Wigner's friend, and, in a more rigorous vein, the transition from decoherent to coherent density matrices, etc., etc. Speak not of what you don't know, dear Sir; quantum mechanics and what it means by "observation" falls into this category, for you. As far as broader versions of 'observation', I offer the earlier analogy equating computation and observation.

On to the Turing test. Peter says "A robot with sensors is informationally autonomous with respect to the human Turing-test conductor (it can go out and sense the world without human intervention), while the computer is completely at the human being's

mercy for new information, like a prisoner in solitary confinement being at the mercy of his/her jailers for information about the outside." It might be a less dramatic form of dependence, but a computer with sensors is just as dependent on things outside of *it* as is the prisoner; the computer is at the mercy of its sensors, over which it has no direct control. See for example, MS, Parkinson's disease, etc., to appreciate just how fleeting can be our 'control' over our sensors and acutators. Q: Are people with these diseases less intelligent than those without? Q: High school epistemology: How can you possibly know that your actuators are doing what you tell them to, and your sensors aren't conning you? Without such knowledge, what's the (relevent) difference if you *think* your input is coming from a human (as in the Turing test) or if you *think* it isn't (as in the autonomous robot)?

David Wolpert

==========

Date: Wed, 26 Sep 90 08:41:00 EST
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: Hugh Petrie <PROHUGH@UBVMS.BITNET>
Subject: Re: PUBLISHING

I did receive the 24 Sept message asking for an acknowledgement-Hugh

==========

Date: Wed, 26 Sep 90 08:53:00 EST
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: Hugh Petrie <PROHUGH@UBVMS.BITNET>
Subject: Re: Principles of control - the gut level

I believe that Rick has gotten ahold of something very important with his message on "the gut level". If control theory is right, than the

opponents, e.g. behaviorist/cognitivists, are controlling something. As good control theorists, we need to discover what that is by introducing disturbances--e.g. papers, etc. Rick's hypothesis is a good one that they are controlling for their own gut-level view at the system level in rejecting control theory papers, etc. What this says is that the proper analysis of the earlier trendy science discussions is to apply control system theory to that as well. In order to change scientific behavior, enough disturbance needs to be introduced to cause reorganization of the system. That is not easy with well entrenched scientific theories. They can alway, or nearly always, shortcircuit a true reality test by perceiving us as "doing something which has already been disproven." Nevertheless, if we use our own principles to analyze why others reject us, it should be somewhat easier to figure out how to introduce disturbances for the behaviorist/ cognitivists that they cannot easily remove. Cheers--Hugh Petrie

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Date: Wed, 26 Sep 90 10:02:53 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM.BITNET>
Subject: Re: Principles of control - the gut level
In-Reply-To: Message of Wed, 26 Sep 90 08:53:00 EST from <PROHUGH@UBVMS>

Of course this is exactly how we should proceed and in fact have proceeded

and have enough evidence (I bet) to have at least a tenative description of what they are controlling for when they review our papers. The evidence is their remarks and review of our papers that we (actually you all) have already sent in for publication but caution must be taken in assessing or analyzing these remarks as data relevant to our theory. The main problem in this assessment is the context and activities of the reviewing process. We don't have enough information unless we have an exchange (usually several times) the who, when where and from what angle the review is given. To begin to get a handle on this we (someone that is) should send a paper to a particu- person asking for a pre-review review (the letter must be quite specific since these statments will be used by the reviewer to do the pre-review review). After the first review another can be asked for politely until we create the disturbance which will give the evidence we require to answer the question:
what is being controlled here? I don't think such an "experiment" is deceptive
since we really would like to know what disturbs the person and we are asking directly for that information by asking for the review. I would not suggest that we launch 10 of these studies but one or two of us who have papers now can send them out to selected persons for this review. I think that this will provide the evidence we have asked for. The next question might be: who would even publish such research on the reviewing process. An answer can be obtained
by asking Clark McPhail who has already published 3 of them.

The ball is in your court!!!!

Charles W. Tucker (Chuck)
Department of Sociology
University of South Carolina
Columbia SC 29208
O (803) 777-3123 or 777-6730
H (803) 254-0136 or 237-9210
BITNET: N050024 AT UNIVSCVM

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Date: Wed, 26 Sep 90 11:19:28 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested
From: RLPSYU08 <TBOURBON@SFAUSTIN.BITNET>
Subject: CONFIRM TRANSMISSION

Compadres,
I am not certain that my recent transmissions went out from our campus. If anyone has the time, please confirm receipt of this request.
Thanks.

Tom Bourbon <TBourbon@SFAustin.BITNet>

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Date: Wed, 26 Sep 90 12:54:21 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: "CHARLES W. TUCKER" <N050024@UNIVSCVM.BITNET>
Subject: Re: CONFIRM TRANSMISSION
In-Reply-To: Message of Wed, 26 Sep 90 11:19:28 CDT from <TBOURBON@SFAUSTIN>

I got it.

Chuck

Charles W. Tucker (Chuck)

Department of Sociology
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Columbia SC 29208
O (803) 777-3123 or 777-6730
H (803) 254-0136 or 237-9210
BITNET: N050024 AT UNIVSCVM

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Date: Thu, 27 Sep 90 09:22:33 cdt
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: J-JUDD@H.PSYCH.UIUC.EDU
Subject: Re: CONFIRM TRANSMISSION

message received

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Date: Thu, 27 Sep 90 09:06:49 -0700
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: Replies

I would like to acknowledge a number of posts here.

To Tom Bourbon. I have seen the notes that you posted. I notice that you are in contact with Bill Williams. Please give him my regards and apologies for any insult I did by editing of his paper in the control theory issue of American Behavioral Scientist. For those on the CSG net who are not aware of it, the Sept/Oct 1990 issue of American Behavioral Scientist (a journal published by Sage) is dedicated to the control theory approach to purposeful behavior. I have not gotten any response about the issue yet (from the general public) but I'd love to hear what any of you CSG netters think about it. Perhaps I am biased (being the editor and all) but I think that there are some great papers in there. Perhaps we could discuss some of the papers on CSGnet. For example, what do you think of Bill's paper. It's a pretty strong indictment of what Phil Runkel calls the Method of Rlative Frequencies (the staple of standard experimental psychology).

To Hugh Petrie -Thanks so much for your comments on my posting about levels of perception in theory. I think your suggested research project is a good one. I've saved virtually all the reviews of all papers I've ever submitted. Several years ago I reached the point where I realized that I loved to write papers and submit them to journals just because I loved to read the reviews. I really don't much care anymore whether the papers get published -- I just like to read the reviews and try to figure out what perceptions the reviewer is trying to control. Someday I may compile these reviews (some of which were written by some "heavyweights" in the field (some were signed and some I can tell by inference) and publish them for fun reading by CSG folks. I do think that it might be interesting to do a study where you try to teach a cognitive/behaviorist control theory. Tape record the session. The goal would be to try to find out the controlled variable by noting the aspects of control theory that are treated as disturbances . This approach might be more efficient then the more naturalistic one of actually getting reviews (to do it right you would have to write several versions of a paper to see which one was not rejected) and, thus, not a disturbance.

To Chuck Tucker -- Where did that cybernetic goop that you posted come from? Is that a newsgroup? Boy, those folks could give you a headache. I guess I'm not a cyberneticist.

Best regards to everyone,

Rick M.

Richard S. Marken USMail: 10459 Holman Ave
The Aerospace Corporation Los Angeles, CA 90024
Internet:marken@aero.org
213 336-6214 (day)
213 474-0313 (evening)

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Date: Thu, 27 Sep 90 12:16:37 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: Rich Ramos <RICHR@UIUCVMD.BITNET>
Subject: test of acknowledgement

Just testing the list for bugs.

Rich

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Date: Thu, 27 Sep 90 13:14:14 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested
From: RLPSYU08 <TBOURBON@SFAUSTIN.BITNET>
Subject: VARIOUS

CSGNet,

First, a few replies to specific persons, then some general remarks on recent postings concerning behaviorism and concerning the recent history of control theory.

To Wayne Hershberger: Yes, I do have a (short) bibliography of deafferentiation studies and literature. It is long enough to help identify key people and "classic" publications. Would you like a copy?

To Rick Marken: You suggested that people might try to replicate and model some of the work by Timberlake. Did you mean his paper in JEAB (1984)? If so, the work was not his, but the re-plotting of earlier data made it dramatically clear that animals working in an environment where they were not feprived, but could gain unconstrained access to food or water, allowed a number of behavioral variables to vary, but held constant the amount of food or water consumed. The data were from Collier, Hirsch and Hamlin (1972) and Marwine and Collier (1979).Timberlake tried to make a case for set points for each of two "behaviors:" "instrumental" (pecking or pressing) and "contingent" (eating or drinking). His idea was that when an animal does one or the other of the two, there was conflict for the set point of the other. (It seems I have gone from "to Rick," to "about behaviorism.")

In the same issue of JEAB were comments from reviewers of the Timberlake paper: For the most part, they dumped on him, and on the idea of set points -- but for the wrong reasons.

Recently, a student of mine (Milton Crawford) wanted to do some work similar to that of Collier and his colleagues. I suggested that, rather than requiring that animals press bars or peck keys, on various "schedules," we simply let them have unrestricted access to food and water, which were available at the end of a 6-foot alley. As a first experiment, we ran two conditions: the alley was level, or was elevated at an angle of 50 degrees. Two of four animals dealt with those situations the way the animals of Collier et al. did, albeit under different circumstances. When the ramp was elevated, the animals traversed it less often than when it was flat, but when at the end, they spent more time eating and drinking -- and the total amount of food and water consumed remained the same under both conditions.

The Lessons we drew? One, yet another confirmation that animals do not have set points for the amounts of "instrumental

and contingent behaviors," but that they have "set points" (reference levels) for food and water and allow their behavior to vary, as needed, to obtain those resources. Two, the animals, like me when there is no coffee in my lab and I must climb the stairs to the departmental watering hole, make fewer trips and consume more while there. (Can I assume that, like me, they don't like to work any harder than they must?)

There were two other animals. At first, my student thought they ruined the study: Each of them made one trip up the ramp, then] camped out there for the duration of the elevated condition. On the level one, they made numerous trips for short stays. Rats aren't all as dumb as I once thought!

One other lesson: Simple equipment and simple procedures can yield data similar to those from much more elaborate studies in the animal learning literature -- and the data can be modeled with control theory.

Just a short note on the history of control. Ours is not thje first time for the "decline" of interest in control, or in similar concepts. I am working on a review of the concept of control and of circular causation in the history of psychology. (With a colleague in a nearby medical school, I am also working on a review of the concepts in physiology and neurology.) As the pieces fall into place, I will share some of them with anyone who is interested.

Dennis: Some specific ideas on the work we discussed earlier will be on the way to you soon.

!

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Tom Bourbon <TBourbon@SFAustin.BITNet>

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Date: Thu, 27 Sep 90 15:20:09 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: CSGnet: UP, UP, & AWAY!

Dear CSGnet:

It sure looks like CSGnet is up and running. I never dreamed it would take off so quickly and so dramatically. Thanks to all of you contributors for providing such a lively discussion.

Here are some points about the functioning of the network you may find useful.

1. Contrary to a previous message I sent, it seems that a reply to a message delivered through the network goes back to the INDIVIDUAL (at least on my system it does). If you want to reply back to the network, you will probably have to enter the CSG-L address over the individual's name before sending the message.

2. You can obtain a montly log of all messages by sending the following command as the first line of your message to LISTSERV@UIUCVMD.BITNET or LISTSERV@VMD.CSO.UIUC.EDU:

GET CSG-L LOG9009

This will give you the September 1990 log. October 1990 will be CSG-L 9010, etc.

3. You can obtain a list of all subscribers to the network by sending the following command to LISTSERV:

REVIEW CSG-L

Remember, all commands must be sent to LISTSERV. Commands should never be sent to CSG-L since this will only broadcast your error to the entire system (it's embarrasing; I know, I've done it myself).

4. You should get a confirmation of messages received by the network. Up to now this has not been happening, but I have reason to believe it has been fixed. I will find out after I send this message.

5. I am hoping to find a way to get Bill Powers on the system within a couple of weeks. In the meantime, I am providing him with copies of messages and will have a statement from him to upload in a few days.

6. Continue to send me names and addresses of people who would like to join us. I will soon figure out how people can join on their own and will let you know when I figure this out.

I hope you all are enjoying this as much as I have been. Keep up the dialogue and let's get some of the strong silent types involved as well. Are you listening, Clark?

Gary A. Cziko
Associate Professor of Educational Psychology
Bureau of Educational Research
1310 S. 6th Street-Room 230
Champaign, Illinois 61820-6990
USA

Telephone: 217/333-4382
FAX: 217/333-5847
Internet: g-cziko@uiuc.edu
Bitnet: cziko@uiucvmd

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Date: Thu, 27 Sep 90 21:50:25 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: CMCPHAIL@UIUCVMD.BITNET
Subject: Hello CSG and Bravo Cziko-G

Thanks Gary. You have made an invisible scientific community audible if not vis
ible to one another. I read every posting & reply with interest and then retur
n to another 10 pages of proof sheets for my book. My deadline is October 8. I hope to be a more active participant in csg-L thereafter. cheers. Clark

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Date: Fri, 28 Sep 90 09:19:53 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: CSG-L Info

Dear networker,

You are a subsriber to the LISTSERV distribution list CSG-L (Control Systems Group Network (CSGnet)) by CZIKO@UIUCVMD.

You may leave the list at any time by sending a "SIGNOFF CSG-L" command to LISTSERV@UIUCVMD. Please note that this command must NOT be sent to the list address (CSG-L@UIUCVMD) but to the LISTSERV address (LISTSERV@UIUCVMD).

The amount of acknowledgement you wish to receive from this list upon completion of a mailing operation can be changed by means of a "SET

CSG-L
option" command, where "option" may be either "ACK" (mail
acknowledgement),
"MSGACK" (interactive messages only) or "NOACK".

Contributions sent to this list are automatically archived. You can
obtain a
list of the available archive files by sending an "INDEX CSG-L"
command to
LISTSERV@UIUCVMD. These files can then be retrieved by means of a "GET
CSG-L
filetype" command, or using the database search facilities of LISTSERV.
Send an
"INFO DATABASE" command for more information on the latter.

Please note that it is presently possible for anybody to determine that
you
are signed up to the list through the use of the "REVIEW" command,
which
returns the network address and name of all the subscribers. If you do not
wish
your name to be available to others in this fashion, just issue a "SET
CSG-L
CONCEAL" command.

More information on LISTSERV commands can be found in the
"General
Introduction guide", which you can retrieve by sending an "INFO
GENINTRO"
command to LISTSERV@UIUCVMD.

Virtually,

The LISTSERV management

Gary A. Cziko Telephone: 217/333-4382
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1310 S. 6th Street-Room 230 Bitnet: cziko@uiucvmd
Champaign, Illinois 61820-6990
USA

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Date: Fri, 28 Sep 90 13:15:22 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested
From: RLPSYU08 <TBOURBON@SFAUSTIN.BITNET>
Subject: ABS ISSUE

Rick commented that he had received no indication of public
response to the ABS issue. Perhaps we should share responses
with him. For one thing, I have received a few requests for
reprints of my article from people outside the CSG. How
they found it, or why they are interested, I do not know --
but I asked them.
Also, I sent a copy to a colleague, a psychologist-
psychophysiologist interested in William James and in the
problems lurking deep at the core of the behavioral and neuro-
sciences. For several years, we have collaborated on research
on brain-activity mapping. His interest in CST grew steadily,
but he resisted "taking the plunge." He indicated that he
would get around to reading the ABS issue, and the most recent
draft of the paper Bill Powers and I had rejected. A few

days later, he called to say he had done nothing but read the manuscript, ABS from cover to cover, and then track down every citation he couild locate, from. He was already at work reevising the content of his doctoral-level course on psychophysiology, to emphasize the crucial role of control processes and we set out to trace the history of the concept in physiology and psychophysiology.
Also, he pressed the journal and manuscript on a cell physiologist at the medical school, who immediately began asking if anyone had ever looked to see if the activity in nervous systems of creatures like Aplysia behaved the way we say signals do in the model. It is too early to tell if he will follow our suggestion that he become the first to do so.
So, Rick, in the view from my isolated location, there is evidence of precisely the effect for which we all hoped. What more could we ask, except for a few sympathetic editors and reviewers!

Tom Bourbon <TBourbon@SFAustin.BITNet>

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Date: Fri, 28 Sep 90 15:03:31 -0700
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: Usefulness

Tom - Thanks for the feedback on the ABS issue. It is most heartening to learn that some folks are interested in it. I just got a call from the fellow who will be writing the advertising copy for the issue. Apparently, the publicity has not yet started. The fellow, who is an ex-journalist, not a psychologist, was very interested in the article. He was asking me about whether he got it right in the publicity write-ups and all. He realized that the control concept of behavior was, indeed, revolutionary (if difficult) and he suggested that the story of control theory in psychology should be done as an ATLANTIC article or something. I agreed and said he should do it - maybe he will.
Alsoe, I think that it would be great to get a physiologist interested in control from a behavioral perspective. It should be possible to look at neurons (or nerves ??) that act as reference, perceptual and error signals. It should be possible to monitor an efferent (reference) nerve and its corresponding afferent (perceptual) nerve and see changes in the reference signal producing conomitant changes (slightly delayed) in the perceptual signal. Maybe there already is some work that can be looked at in that way.

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Here is a new topic for the weekend. I'd like to start a dialog on "The Uses of Control Theory". Many people have the idea that the true test of the value of a theory is whether it is "useful". This seems to be particularly true in the field of psychology. One unquestionable reason for the popularity of behaviorism is its apparent usefulness: it tells you how to cure "behavior problems", raise children, manage people, etc. I think a case can be made for the proposition that cognitive psych (and its variants) really came into its own when it learned how to sell itself as "useful". Thus, the popularity of AI (with helpful expert systems), human-computer interface engineering (my own field), neural nets, fuzzy logic (the Japanese use it in washing machines!?!), etc. all of which are related to cognitive psychological theorizing. Even Freudian, Jungian and other "clinical" theories are popular because they promise to show you the source of your own problems: they claim to be useful.

I am often asked, when I present control theory ideas, "so, how can we use this; what will the theory buy me"? I don't think that I happen to be running into an unusually utilitarian group of people. I think all people look at ideas in terms of what those ideas can do for them: after all, people want to be able to control things better; they are control systems. The success of science in general (and of scientific theories in particular) is typically presented in terms of "look what science has made it possible for us to do (control)". Science is seen as the handmaid of control;not as a window on understanding.

I submit that this people's interest in "usefulness" puts control theory at a huge disadvantage in the public eye. Things that are useful help us control. But control works best when practiced on objects that are not themselves trying to control. Control theory tells us that people are trying to control. Unfortunately, people have the nasty habit of mistaking "other people" for the kind of objects that can be controlled. One of the main goals of control theory (as I see it) is to teach people that other people are not that kind of object (the kind that is more familiar to physicists). In fact, control theory suggests that efforts to treat people as though they were controllable objects are likely to lead to conflict rather than success. When there is conflict, there is no control on either side.

I don't think that the message of control theory is "just leave people alone and everything will be alright". But the message is definitely not "if you understand control theory you can get people to behave just the way you want". Many of the people who have asked me about the uses of control theory have definite goals regarding how they want people to behave. These people tend to ignore a theory if it doesn't say "in order to get behavior Y you do behavior X". It is difficult to convince them that, in the long run, they will be able to achieve their goals more successfully if they are more selective about what they try to control (non-living systems) and what they try to cooperate with (living systems).

So, what do you think? What is the use of control theory? How would you communicate its usefulness to, say, an experimental psychologist, the manager of a business, a plain old ordinary person?

Thanks

Rick M.

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Date: Fri, 28 Sep 90 17:25:12 -0500
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: g-cziko@UIUC.EDU
Subject: Uses of Control Theory

Rick:

I think ontrol theory can be very useful for education, management, and clinicians (as demonstrated at our meeting), but there is also a scary side as well.

If control theory tells us that attempts to control other people using "peaceful coercion" ultimately leads to conflict and violence, then why not

start with the conflict and violence from the beginning. Saddam is now controlling the oil production of Kuwait quite successfully by using force.

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Date: Fri, 28 Sep 90 15:54:19 -0700
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: marken@AEROSPACE.AERO.ORG
Subject: Usefulness

Gary--
I don't think the message of control theory is that "peaceful coersion" will necessarily lead to conflict. In fact, peaceful coersion could be quite successful. Actually, it seems to work all the time. I want to eat and this company is willing to give me money so that I can. I understand that my role is to "work" for them -- where "work" can mean spending my time doing something that I prefer to do less than others. I'm willing to make this exchange -- the company "controls" what I do and I control the amount of money I get. I works because, so far, we are both willing to accept a little error -- I don't get nearly as much money as I want and they probably don't get all the work they would like to get out of me. But, we're both happy.

Control theory just says that, when you deal with a person you are dealing with a control system. The result of that "dealing" depends on how you deal with the control system and what the control system's current configuration is. But, it is true that if you try to control the control system "arbitrarily" (that is, without taking into account its purposes) there is a good change of conflict. For example, if the company decides that it will only pay me if I work in a certain way, and if its the only company in town and I have no alternative means of getting money, then there is likely to be problems if, for some reason, I don't want to work in that particular way. If the company tries to control me -- meaning it will only accept seeing a particular kind of behavior on my part -- and if that behavior is something I just don't want to do--then there is conflict.

Most people deal with other people as people -- they act as though they understand that the other person is a control system and they respect. You get into problems with very "purposeful" people who have to have people behaving in jst a certain way -- no attempts at cooperation. These people treat people as objects. When I control a hammer, I want it to do exactly what I want it to move. I don't want to compromise and say "well, if you want to land a few millimeters closer to my thimb then its ok with me -- I under-stand that you have needs too". I don't say that because the hammer has no needs or wants and I can control it perfectly - we never have conflicts. But is I act the same way with my daughter, son or wife I am probably looking at significant conflict.

I wanted to get this off before I leave work so it's not going through the editor so I apologize for errors. But I do want

to continue this discussion: especially in terms of the point you brought up about our current crisis with Hussain. How would you analyse the situaiton from a control theory perspective? Obviously, Saddam is an example of the kind of person I described above as "purposeful". He clearly wants something and he is willing to engage in conflict in order to get it. I argue that conflict can never be a good solution -- even for the victor, since stronger control system will prevail over weak ones in a conflict. Conflicts are most interesting and obviously debilitating when both parties are about of equal strength (or skill or whatever). But even the winner of the conflict is a loser (in the long run). It is very seductive -- winning a conflict looks like successful control by the person who does win. But I argue that it is a fools paradise. The winner then imagines that control can always be achieved by force (not true) and the loser never really goes away.

I admit that there are many instances where the havoc being reaked by a control system is so bad for other control systems that there seems no option other than forcible conflict (Hitler comes to mind, slave owners are another (sorry Rebs), and possibly Saddam). But con't we think of ways to avoid getting into these situaitons. I just can't believe that there are that many "evil" control systems running around.

I look forward to any replies.

Have a great weekend.

Rick

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Date: Sun, 30 Sep 90 17:47:00 EDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
From: David McCord/Psych <MCCORD@WCUVAX1.BITNET>
Subject: RE: Usefulness

Rick,

Your interesting remarks suggested to me a potentially very useful aspect of control theory -- conflict resolution. Conflict situations are often those in which two parties are controlling the same input quantity around different, incompatible reference levels. From a control theory perspective, though, we know that those reference signals are merely the means to ends, outputs of control loops one level higher. Conflict resolution typically involves "going up a level" in order to identify higher-level goals of each party that are not fundamentally incompatible. While this technique is included in many different approaches to conflict management, control theory provides a unique understanding of why the technique works.

David

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Date: Sun, 30 Sep 90 22:45:30 CDT
Reply-To: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Sender: "Control Systems Group Network (CSGnet)" <CSG-L@UIUCVMD>
Comments: Please Acknowledge Reception,Delivered Rcpt Requested
From: RLPSYU08 <TBOURBON@SFAUSTIN.BITNET>

Subject: Scheduling

Members of CSG,
Over the weekend, Phil Runkel called to discuss plans for the 1991 meeting, in or near Eugene, Oregon. He found a good place, up the river valley from the city -- away from the distractions of town. Transportation to the site is available. The facilities sound nice and the cost will be reasonable. We need advice concerning the dates.
The facility is booked for September, 1991. Questions to you:
1. Should we schedule for October, 1991?
2. If you say, "yes," to #1, then when? The first week (2-5 Oct), the second week-12 Oct), or later?
Please send me your choices by Tuesday. I will do a quick count and pass the results along to Phil.
Thanks.

Tom Bourbon <TBourbon@SFAustin.BITNet>