Welcome everyone to yet another new year and new adventures. It’s been a very cold and snowy winter here in the Midwestern United States, but I think we are finally past the worst of it. There is light at the end of the tunnel and I prefer to make friends with the winter by looking at the positives. As rough as it can be, without the cold we have no skiing, snowmobiling or ice fishing. Ironically, the same goes for cryonics. If we find ourselves cryopreserved that means we are in a bad way. We had to be legally pronounced dead and we are at that point frozen at very cold temperatures but there is light at the end of the tunnel. We have a real chance. As long as society continues to exist and advance technologically there is a strong reason to believe we may be repaired, rejuvenated and brought back to life in an advanced world where life is expected to be even better than it is today - which despite what one’s pessimism might say, would be light years more comfortable than the conditions of our ancestors just a few generations before. There’s no room for spoiled pessimism when there is every reason to be optimistic. We really do have it good and now we actually live in a time where the possibility exists for us to escape the cold grip of death and someday explore the warmth and comfort of new life in a promising future.

Recently, at CI things have slowed down a bit with patient intakes which has given us breathing room to work on some more of the finishing touches on our current building while at the same time beginning to retrofit our new location with the needed equipment to expand and push forward. Testing continues on new cryostats. CI has been looking at larger more efficient cryostats that may be able to hold 8 patients vs the current 6. These vessels would require less retrofitting, labor and use less overall LN2 per pt.

CI also continues to fund research at the university level in the field of cryobiology in efforts to improve preservations by lowering toxicity and ice formation in tissues. We don’t just pursue science for the sake of it but always aim to see tangible results that we can bring back and apply in actionable ways. It is important to be frugal with limited resources and although we’d love to fund all pursuits we have to look out for the best way to stretch every penny of our member’s money.

Money spent frivolously or without focused goals and results is money that could be spent on additional people, including our friends or family. This is why CI keeps our prices low while encouraging members to overfund and donate if they have the means. We are in this together and it doesn’t take a lot to review your life insurance and consider upping your amount for bequest to help our mission. Bottom line - the stronger CI is the better all of our chances will be. As always, we encourage you to review your personal situation and make sure your paperwork, contacts, preplanning arrangements and standby are all up to date. There are plenty of resources and some people have done a great job of taking the initiative but others have procrastinated. If you take anything away from this newsletter it is to make a late New Year’s resolution to yourself and CI to check off a few items on the CI Members Readiness checklist. My resolution is to do just that and to assist anyone who reaches out to me to do the same. Best Wishes and hope to see you in the future.

Dennis Kowalski
CI President
Member Readiness Checklist

You’ve signed up for cryonics - what are the next steps?

Welcome Aboard! You have taken the first critical step in preparing for the future and possibly ensuring your own survival. Now what should you do? People often ask “What can I do to make sure I have an optimal suspension?” Here’s a checklist of important steps to consider.

- Become a fully funded member through life insurance or easy pre-payments
  
  Some members use term life and invest or pay off the difference at regular intervals. Some use whole life or just prepay the costs outright. You have to decide what is best for you, but it is best to act sooner rather than later as insurance prices tend to rise as you get older and some people become uninsurable because of unforeseen health issues. You may even consider making CI the owner of your life insurance policy.

- Keep CI informed on a regular basis about your health status or address changes. Make sure your CI paperwork and funding are always up to date. CI cannot help you if we do not know you need help.

- Keep your family and friends up to date on your wishes to be cryopreserved. Being reclusive about cryonics can be costly and cause catastrophic results.

- Keep your doctor, lawyer, and funeral director up to date on your wishes to be cryopreserved. The right approach to the right professionals can be an asset.

- Prepare and execute a Living Will and Power of Attorney for Health Care that reflects your cryonics-related wishes. Make sure that CI is updated at regular intervals as well.

- Consider joining or forming a local standby group to support your cryonics wishes. This may be one of the most important decisions you can make after you are fully funded. As they say “Failing to plan is planning to fail”.

- Always wear your cryonics bracelet or necklace identifying your wishes should you become incapacitated. Keep a wallet card as well. If you aren’t around people who support your wishes and you can’t speak for yourself a medical bracelet can help save you.

- Get involved! If you can, donate time and money. Cryonics is not a turnkey operation. Pay attention and look for further tips and advice to make both your personal arrangements and cryonics as a whole a success.

- Keep up to date!
Membership Benefits

Why join the Cryonics Institute?

1) **A Second Chance at Life**
Membership qualifies you to arrange and fund a vitrification (anti-crystallization) perfusion and cooling upon legal death, followed by long-term storage in liquid nitrogen. Instead of certain death, you and your loved ones could have a chance at rejuvenated, healthy physical revival through cryopreservation.

2) **Affordable Cryopreservation**
The Cryonics Institute (CI) offers full-body cryopreservation for as little as $28,000.

3) **Affordable Membership**
Become a Lifetime Member for a one-time payment of only $1,250, with no dues to pay. Or join as a Yearly Member with a $75 initiation fee and dues of just $120 per year, payable by check, credit card or PayPal.

4) **Lower Prices for Spouses and Children**
The cost of a Lifetime Membership for a spouse of a Lifetime Member is half-price and minor children of a Lifetime Member receive membership free of charge.

5) **Quality of Treatment**
CI employed a Ph.D level cryobiologist to develop CI-VM-1, CI's vitrification mixture which can help prevent crystalline formation at cryogenic temperatures.

6) **Standby Options and Assistance**
CI's use of Locally-Trained Funeral Directors means that our members can get knowledgeable, licensed care. Or members can arrange for professional cryonics standby and transport by subcontracting with Suspended Animation, Inc or International Cryomedicine Experts (I.C.E.) CI also offers Standby Training Materials and Kits for members who choose to perform Local Standby.

7) **Affordable Funding Options**
Cryopreservation with CI can be funded through life insurance policies issued in the USA or other countries. Prepayment and other options for funding are also available to CI members.

8) **Cutting-Edge Cryonics Information**
Members receive a free e-subscription to the Cryonics Institute Newsletter, as well as access to our Facebook page, Twitter feed, YouTube channel and an official members-only forum.

9) **Helpful, Professional Support**
CI's professional staff is available to answer any questions and address any concerns you may have about CI, your membership or Cryopreservation.

10) **Additional Preservation Services**
CI offers a sampling kit, shipping and long-term liquid nitrogen storage of tissues and DNA from members, their families or pets for just $98.

11) **Support Education and Research**
Membership fees help CI to fund important cryonics research and public outreach, education and information programs to advance the science of cryonics.

12) **Member Ownership and Control**
CI Members are the ultimate authority in the organization and own all CI assets. They elect the Board of Directors, from whom are chosen our officers. CI members also can change the Bylaws of the organization (except for corporate purposes).

The choice is clear: Irreversible physical death, dissolution and decay, or the possibility of a vibrant and joyful renewed life. Don’t you want that chance for yourself, your spouse, parents and children?

To get started, contact us at:
(586) 791-5961 • email: cihq@aol.com
Visit us online at www.cryonics.org
Cat Revived from Frozen Temps

Thanks to CI Member John Nazars for bringing this story to our attention.

He writes “Hey, something else that might be an interesting read in the upcoming Cryonics magazine. You may have heard of it already but veterinarians brought back to life a cat that froze in that Polar Vortex in February.”

The story comes from Montana where a cat that was found nearly frozen and unresponsive after being left outside for hours in 10 degree temperatures was revived by local veterinarians.

Doctors used warm water, warming blankets, heating pads and heated cages to bring the cat’s temperature up and she recovered completely.

Full story with video can be found here: https://abc7chicago.com/pets-animals/frozen-cat-rescued-from-snow-brought-back-to-life/5125338/

Perpetual Life Announces Cryonics Symposium with Rudi Hoffman Sat. July 27th

Perpetual Life recently announced a Cryonics Symposium to be presented by Rudi Hoffman on Saturday, July 27th, at the Church of Perpetual Life in Hollywood, FL.

A social gathering is scheduled for the day before on Friday, July 26th.

Special guests on the list currently include: Linda Chamberlain-Alcor, Joseph Kowalsky-Cryonics Institute, Mike Perry-The Venturists, Jim Yount-American Cryonics Society and a special guest speaker from KrioRus.

The symposium is for all current and prospective cryonicists and promises to provide a wealth of information and discussion on the current and future state of cryonics.

For more information, please visit www.PerpetualLife or email Rudi Hoffman at rudi@rudihoffman.com or Neal VanDeRee at StopOldAge@aol.com.
Facility Update

Memorial Library

With the addition of catwalks and safety rails to CI’s back room cryostat row, the majority of improvements are now complete at the Main Facility and attention will be focused on our new secondary location.

CI also added a “Memorial Library” in our Visitor’s Room featuring relevant works from CI’s historical archives from Robert Ettinger among others. Persons interested in donating current relevant or vintage historical cryonics books in their collection can contact chq@aol.com.

Test Cryostat

Catwalk Installed in Back Room
Upcoming Events
List Courtesy of Rudi Hoffman

1. ASSET PRESERVATION GROUP meeting - May 3-5 in Tampa, FL.
The APG is a group of cryonicists, attorneys, wealth management folks studying and implementing ways to protect and grow assets, prior to and even after cryonics. This is designed to enable you to (Maybe) “Take it with you!” There is VERY limited availability for this free meeting, so contact me asap if you may be interested. (You don’t have to be rich to attend or have a trust).

2. TEENS and TWENTIES OF CRYONICS gathering, May 17-19
If you are a fully signed and funded cryonicist 30 or under in age, you may qualify to attend the T and T ALL EXPENSES PAID thanks to a wealthy and visionary cryonicist who provides scholarships. There a few slots left this year, so contact me asap. I love this event!

3. CRYONICS SYMPOSIUM July 27, Hollywood, FL
NEW EVENT which is chaired by Neal VanDeRee, open to all cryonicists, antiagers, skeptics, prospects, scoffers. We have THREE headline guest presenters, Alcor co-founder Linda Chamberlain, Cryonics Institute Leader Joe Kowalsky, and World’s Leading Cryonics Funder and Author Rudi Hoffman. This is FREE EVENT, but you’ll need to get there. We have special rates at a Hollywood hotel, be there Friday evening if possible July 26 and make it a SPECIAL weekend.

4. RAADfest Oct. 2-6 Las Vegas.
Visit https://www.raadfest.com/ for info on this, the world’s largest antiaging/cryonics event. Some cost to attend, which includes most meals. Visionaries in Vegas...Need we say more?

5. CRYONICS INSTITUTE ANNUAL GENERAL MEETING Sept. 8, Clinton Township, MI
Meeting open to all, with special invitation to CI members or prospective members. No cost to attend.
Greetings to ALL Young Cryonicists,

You are receiving this invitation because you are the future of cryonics.

*All* attention will be focused on:

- our getting to know you and
- you getting to know each other.

PLUS: an update on the latest emergency response technologies and revival strategies.

**Who is Eligible?**

*Fully signed up* young cryonicists from all acknowledged cryonics providers in their late teens *through age thirty (18-30) as of May 16, 2019* - may apply to attend.

*Younger Cryonicists With Parent(s):*

Thirteen through seventeen year olds may attend when accompanied by their parent(s) or guardian(s).

Parents/guardians of attendees aged 18-19 are also encouraged to accompany their child. All attending parents will be put in touch with each other should they choose to have their own “get together” during the “young cryonicists” gathering.

**Program**

Some individuals are social butterflies. This is not so for everyone. And we want everyone to meet everyone.

Therefore, I have designed a diverse range of “getting to know you” activities. *IF you would enjoy participating in these various getting acquainted activities, THEN this is for you.*

---

Enjoy this exciting & fulfilling weekend.

**SCHOLARSHIPS:**

Biomedical Research & Longevity Society, through a generous education grant, offers **40 scholarships** paying ALL of the following:

- **U.S. airfare** to/from Fort Lauderdale, FL (up to $1000 for origin outside the U.S.)
- **Hotel** accommodations for Friday & Saturday nights - plus Thursday & Sunday nights (specifically) for scholarship attendees who room together.
- **Meals** and beverages on Friday night, all day Saturday, & Sunday breakfast & lunch
- **Registration** fee - $350 - also covered

Please click on this website for a full packet with all details and application forms.

**DOWNLOAD PACKET**

---

Forever,

Cairn Erfreuliche Idun
Founder/Director: T2

*PS* Come Early. Stay Late.

Some attendees to T2 enjoy spending extra time in Florida - especially since their flight is already paid for via their scholarship.

*This is at their own expense for additional lodging and food.*

I look forward to getting to know you.
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CI Membership
March 2019

- Members: 1,594
- Assoc. Members: 195
- Patients: 174
- Pets: 168
- DNA/Tissue: 283
- SA: 246

Total: 1,962

New Members
- United States: 1,099
- Canada: 97
- United Kingdom: 110
- Spain: 15
- Brazil: 4
- Costa Rica: 2
- Argentina: 1

New Country
- Aruba: 2
- Australia: 63
- New Zealand: 1
- Singapore: 3
- South Africa: 1
- Cambodia: 1
- Hong Kong: 2
- Japan: 4
- China: 4
- India: 1
- Sweden: 11
- Norway: 8
- Denmark: 2
- Belgium: 10
- France: 17
- Portugal: 3
- Czech Republic: 2
- Croatia: 1
- Switzerland: 3
- Liechtenstein: 1

CI Members as of March 6, 2019:

- Total Members: 1,594
- Members with CI contracts in force: 628
- Members with contracts with Suspended Animation: 246
- CI has 174 human patients
- CI has 168 pet patients
- Various tissue samples stored for 283 members

CI Membership Map

- Countries with new members and new countries are marked with color-coded pins.
- The map shows the global distribution of members, highlighting notable regions such as the United States, United Kingdom, and Canada.
I have been interested in cryonics for a while, but it took me until the end of 2017 to actually sign up and become a member with the Cryonics Institute. Being originally from Germany, I have spent a decade in the United States (California) and now recently migrated to Australia.

In order to set things up, I had to, as everyone knows, get my financing going. Given that I knew I would always remain a German citizen, I chose to get it done over there. Having a preexisting condition, I anticipated to run into some troubles with regards to getting life insurance. It turned out to be as expected. Application: Denial, another application: another denial, and so on. Very frustrating.

Finally, I came across another option. In German it is called “Sterbeversicherung” (death insurance). It is a form of life insurance with usually up to 20,000 Euro coverage, which is supposed to cover your funeral expenses so that relatives don’t have to deal with shouldering that cost. How is it different? Most providers offer a non-health check option if you agree to up to two years of waiting period with coverage amount increasing in 6 month increments (€5000 after 6 months, €10,000 after one year, etc.). Signing up for more than one of those insurance policies allowed me to reach the coverage level which I deemed necessary.

So where does bureaucracy fit in? Well, first of all, in my opinion, bureaucracy has three major factors: 1. Forms, 2. Confusion, 3. Laziness. Germany is renowned for overregulation and everybody is aware of it. Example: German public law (§1314 II BGB) states - “A marriage is invalid if one of the participants was unconscious when it took place”. Should be obvious, right? Well, not in Germany. Having lived in several different countries, though, I am pretty sure that it is a common phenomenon.

Anyway, Factor One: Forms

In Germany there is an old saying (it’s a rhyme): “Von der Wiege bis zur Bahre: Formulare, Formulare.” Translated: From the cradle until the death bed, form sheets and (even more) form sheets. The problem with form sheets? They generally just cover the most common answer options and often don’t have a field for additional comments. In the old days, where everything was filed and archived in paper form, it was of course also a problem, but at least whoever processed it could scribble something on the side. In modern days, where someone usually has to enter its content into a government or corporate database, it becomes a real problem. What are you, as the person processing it, supposed to do if the pull down menu options don’t include the choice that the person who filed the form put down? Well, that brings us to factor number two.

Factor two: Confusion.

When people don’t know what to do, it stresses them out. This generally means they will either delegate the issue to
someone else (who hopefully knows more about how to handle it), procrastinate, ignore it and pretend they never got it, or just reject a request. Most people should be familiar with this. If you want something from somebody (e.g. a government agency) and the option is uncommon, you’ll hear: “Sorry, those are the choices and that’s all I can do. Bye, bye.” In those cases, you might have to bypass the lower levels and complain to somebody further up in the hierarchy. If someone else wants something from you (e.g. your business / money), they might at least be willing to try, in particular if they get money themselves for having a client sign a contract.

Factor Three: Laziness

This is probably the worst factor. Things which deviate from the norm create extra work. Wait, what?? Extra work? No, thank you. A nice anecdote to exemplify this occurred to me after my recent move to Australia. People had to get a signature from me when using my foreign credit card. That was unusual and confused people. Some ran around forever trying to find a pen, others just said “whatever” and dumped the receipt I was supposed to sign. Even an insurance person might ask themselves, “Is it worth spending all afternoon calling around for a solution for this problem or should I just say that we can’t do it like this and move on, maybe work on two other clients?”

So you might ask yourself: How does cryonics fit into all of this? Well, when trying to fill out the application form sheet for my insurance policies, it required information about the beneficiary. That means fields for the first and last name, their date of birth and their gender. Putting down a legal person (like a not-for-profit organization) was of course not an option. So what is the Cryonics Institute’s date of birth? Some date in 1976? What is its gender? Who knows, maybe it is whatever the majority of cryopreserved members’ gender is. You get the point.

I contacted the insurance agent and he said putting down a legal person as the beneficiary is not a problem. I even edited the PDF file of the application, so that it said “legal person” and removed the gender and DOB fields. Waiting for my coverage certificate which was supposed to state CI as the beneficiary, I felt good that things got resolved. Well, the document arrives by postal mail and states... “next of kin” as beneficiary. All the discussion with the agent and trying to support them and the result was a standardized coverage certificate. I suppose, as expected, laziness is hard to battle. Maybe they thought that I wouldn’t notice. So I had to complain about the agent at the corporate headquarter and annoy them until I finally got what I wanted.

So what have I learned from this (and maybe you can as well)? Don’t trust that things have been taken care of. Bureaucracy is tough to beat. Double or rather triple check that things are the way they are supposed to be when they have anything to do with ensuring your cryopreservation. The nurse is supposed to call a foreign number (CI) prior to / following death? Don’t trust they will. Maybe the phone system in the hospital doesn’t allow overseas calls. Ensure they have alternatives, which will then make it happen. In my work environment, I often had colleagues who simply said “I tried” and then put an issue “ad acta” and reverted to their usual ways of handling things. With regards to getting the best cryopreservation, that’s most definitely not what you want.

All the best for your attempt to make it happen, Alex
Transhumanism: AI could figure out how to make humans live forever

By Ryan Daws – Posted on February 28, 2019

‘If You’re Under 50, You’ll Live Forever: Hello Transhumanism’ was the name of the session and featured Alex Rodriguez Vitello of the World Economic Forum and Stephen Dunne of Telefonica-owned innovation facility Alpha.

Transhumanism is the idea that humans can evolve beyond their current physical and mental limitations using technological advancements. In some ways, this is already happening.

Medical advancements have extended our lifespans and AI is helping to make further breakthroughs in areas such as cancer treatment.

Vitello notes how Dr Aubrey de Grey from the SENS Research Foundation has been able to extend the lifespan of mice threefold (Fun fact: Grey was an AI reseacher before switching fields to biology.)

“That’s about 300 years in human years. And these mice are super happy, they’re like having sex and everything is great,” jokes Vitello.

Artificial limbs will go beyond matching the abilities of natural body parts and provide things such as enhanced vision or superhuman strength beyond what even Arnie achieved in his prime.

Prosthetics, meanwhile, are enabling people to overcome their disabilities. Today, you can even be turned into a human compass with an implant that vibrates every time you face north.

CRISPR gene editing will one day help to eliminate disorders prior to birth. “You can eliminate cancer, muscular dystrophy, multiple sclerosis… all these things,” comments Vitello.

These are exciting possibilities, but some transhumanist concepts are many years from...

FULL ARTICLE AT ARTIFICIALINTELLIGENCENEWS.COM
Patients Experiment With Prescription Drugs To Fight Aging

By Marisa Taylor | MARCH 6, 2019

Dr. Alan Green’s patients travel from around the country to his tiny practice in Queens, N.Y., lured by the prospect of longer lives.

Over the past two years, more than 200 patients have flocked to see Green after learning that two drugs he prescribes could possibly stave off aging. One 95-year-old was so intent on keeping her appointment that she asked her son to drive her from Maryland after a snowstorm had closed the schools.

Green is among a small but growing number of doctors who prescribe drugs “off-label” for their possible anti-aging effects. Metformin is typically prescribed for diabetes, and rapamycin prevents organ rejection after a transplant, but doctors can prescribe drugs off-label for other purposes — in this case, for “aging.”

Rapamycin’s anti-aging effects on animals and metformin’s on people with diabetes have encouraged Green and his patients to experiment with them as anti-aging remedies, even though there’s little evidence healthy people could benefit.

“Many of [my patients] have Ph.D.s,” said Green, who is 76 and has taken the drugs for three years. “They have read the research and think it’s worth a try.”

In fact, it’s easier for patients to experiment with the drugs — either legally off-label or illegally from a foreign supplier — than it is for researchers to launch clinical trials that would demonstrate they work in humans...
Harvard University uncovers DNA switch that controls genes for whole-body regeneration

BY Sarah Knapton, science editor - 14 MARCH 2019 • 6:00PM

Humans may one day have the ability to regrow limbs after scientists at Harvard University uncovered the DNA switch that controls genes for whole-body regeneration.

Some animals can achieve extraordinary feats of repair, such as salamanders which grow back legs, or geckos which can shed their tails to escape predators and then form new ones in just two months.

Planarian worms, jellyfish, and sea anemones go even further, actually regenerating their entire bodies after being cut in half.

Now scientists have discovered that that in worms, a section of non-coding or ‘junk’ DNA controls the activation of a ‘master control gene’ called early growth response (EGR) which acts like a power switch, turning regeneration on or off.

“We were able to decrease the activity of this gene and we found that if you don’t have EGR, nothing happens,” said Dr Mansi Srivastava, Assistant Professor of Organismic and Evolutionary Biology at Harvard University.

“The animals just can’t regenerate. All those downstream genes won’t turn on, so the other switches don’t work, and the whole house goes dark, basically.”

The studies were done in three-banded panther worms. Scientists found that during regeneration the tightly-packed DNA in their cells, starts to unfold, allowing new areas to activate.

But crucially humans also carry EGR, and produce it when cells are stressed and in need of repair, yet it does not seem to trigger large scale regeneration.

Scientists now think that it master gene is wired differently in humans to animals and are now trying to find a way to tweak its circuitry to reap its regenerative benefits.

Post doctoral student Andrew Gehrke of Harvard believes the answer lies in the area of non-coding DNA controlling the gene. Non-coding or junk DNA was once believed to do nothing, but in recent years scientists have realised is having a major impact.

“Only about two percent of the genome makes things like proteins,” added Mr Gehrke said. “We wanted to know: What is the other 98 percent of the genome doing during whole-body regeneration? ...
Nanosponges sop up toxins and help repair tissues

Tiny particles coated with cell membranes can do more than deliver drugs

BY ESTHER LANDHUIS 7:00AM, MARCH 7, 2019

To take his fledgling lab to new heights, Liangfang Zhang hatched a plan that he considered brilliant in its simplicity. It involved procedures that many of his peers found a little out there. But if he could make his idea work, it would clear a major hurdle to safely ferry therapies through the body on nanoparticles one-thousandth the width of a human hair.

Yet back in 2010, the young nanoengineer could not convince the National Institutes of Health, the main funder of U.S. biomedical research, to support the project. Zhang applied for funding four or five times over several years, to no avail.

“It felt quite lonely,” he says. “But I just felt this is very unique stuff. And it may become a big thing.”

Pulling funds from other projects and from the start-up package he received to set up his lab at the University of California, San Diego, Zhang did the experiments for his breakthrough paper, published in 2011 in the Proceedings of the National Academy of Sciences. He and coworkers created a new class of nanoparticles, made from carbon-containing polymers, that could slip through blood vessels in a mouse without triggering an immune reaction. While immune responses are important for killing disease-causing pathogens, the same reactions are a nuisance when they clear out molecules made to deliver lifesaving drugs.

Then, instead of just viewing their particles as a drug-delivery system, which most other researchers were focused on, Zhang and his team made a surprising pivot. They repurposed the particles to act as “nanosponges” that trap and remove toxins...
introduction

Many people are concerned about climate change and its impact on the planet over the next 80 years. However, another threat to humanity that is much more alarming, very real + very close — is the creation of artificial super-intelligence (the abbreviation is ASI). Today’s artificial intelligence will become ASI when it’s billions of times “smarter” than people. We’ll need to learn to live with ASI, or we might not be around much longer.

technology execs say concerns are real

Many high-level executives in the tech industry warn about the dangers of ASI — for example: Sundar Pichai, CEO at Google. Google is a leader in the development + application of computer software in the field of artificial intelligence. For example: the company Deep Mind — under the Alphabet co. umbrella that also owns Google — is developing software programs that learn to solve complex problems, without teaching them how. This is the true beginning of ASI: it will have characteristics of human intelligence but will astronomically exceed it.

Sundar Pichai gave an interview to the Washington Post — he said artificial intelligence holds great promise to benefit humanity. But some scientists worry about potential harmful applications of the tech. Pichai said their concerns are “very legitimate.” For example, he described autonomous AI weapons that can make “kill decisions” on their own. Think about the fictional SkyNet system from the Terminator series of films...
Young bone marrow rejuvenates aging mouse brains

Transplanting marrow from young lab mice to old mice preserves memory and learning skills

Date: February 20, 2019
Source: Cedars-Sinai Medical Center

A new study has found that transplanting the bone marrow of young laboratory mice into old mice prevented cognitive decline in the old mice, preserving their memory and learning abilities. The findings support an emerging model that attributes cognitive decline, in part, to aging of blood cells, which are produced in bone marrow.

“While prior studies have shown that introducing blood from young mice can reverse cognitive decline in old mice, it is not well understood how this happens,” said Helen Goodridge, PhD, associate professor of Medicine and Biomedical Sciences at Cedars-Sinai and co-senior author of the study. “Our research suggests one answer lies in specific properties of youthful blood cells.”

If further research confirms similar processes in people, the findings could provide a pathway for designing therapies to slow progression of neurodegenerative diseases, including Alzheimer’s, that affect millions of Americans, Goodridge said.

In the study, published in the journal Communications Biology, 18-month-old laboratory mice received bone marrow transplants from either 4-month-old mice or mice their own age. Six months later, both transplanted groups underwent standard laboratory tests of activity level and learning, plus spatial and working memory. Mice that received young bone marrow outperformed mice that received old bone marrow. They also outperformed a control group of old mice that did not get transplants.

The research team then examined the hippocampus, a region associated with memory, in the mice brains. Recipients of young bone marrow retained more connections, known as synapses, between neurons in the hippocampus than did recipients of old bone marrow, even though they had about the same number of neurons. Synapses are critical to brain performance...

FULL ARTICLE AT SCIENCEDAILY.COM
A gut-brain link for Parkinson’s gets a closer look

The misfolded proteins may start with microbes in the digestive system

BY LAURA BEIL 9:00AM, DECEMBER 7, 2018

Martha Carlin married the love of her life in 1995. She and John Carlin had dated briefly in college in Kentucky, then lost touch until a chance meeting years later at a Dallas pub. They wed soon after and had two children. John worked as an entrepreneur and stay-at-home dad. In his free time, he ran marathons.

Almost eight years into their marriage, the pinky finger on John’s right hand began to quiver. So did his tongue. Most disturbing for Martha was how he looked at her. For as long as she’d known him, he’d had a joy in his eyes. But then, she says, he had a stony stare, “like he was looking through me.” In November 2002, a doctor diagnosed John with Parkinson’s disease. He was 44 years old.

Carlin made it her mission to understand how her seemingly fit husband had developed such a debilitating disease. “The minute we got home from the neurologist, I was on the internet looking for answers,” she recalls. She began consuming all of the medical literature she could find.

With her training in accounting and corporate consulting, Carlin was used to thinking about how the many parts of large companies came together as a whole. That kind of wide-angle perspective made her skeptical that Parkinson’s, which affects half a million people in the United States, was just a malfunction in the brain.

“I had an initial hunch that food and food quality was part of the issue,” she says. If something in the environment triggered Parkinson’s, as some theories suggest, it made sense to her that the disease...
A nap a day keeps high blood pressure at bay

Date: March 7, 2019   Source: American College of Cardiology

Catching some midday shut-eye linked to similar drops in blood pressure seen with other lifestyle changes, some medications

It seems that napping may do more than just reboot our energy level and improve our mood. New research being presented at the American College of Cardiology’s 68th Annual Scientific Session found that people who took advantage of a midday snooze were more likely to have a noticeable drop in blood pressure compared with those who didn’t nap.

“Midday sleep appears to lower blood pressure levels at the same magnitude as other lifestyle changes. For example, salt and alcohol reduction can bring blood pressure levels down by 3 to 5 mm Hg,” said Manolis Kallistratos, MD, cardiologist at the Asklepieion General Hospital in Voula, Greece, and one of the study’s co-authors, adding that a low-dose antihypertensive medication usually lowers blood pressure levels by 5 to 7 mm Hg, on average.

Overall, taking a nap during the day was associated with an average 5 mm Hg drop in blood pressure, which researchers said is on par with what would be expected from other known blood pressure-lowering interventions. In addition, for every 60 minutes of midday sleep, 24-hour average systolic blood pressure decreased by 3 mm Hg.

“These findings are important because a drop in blood pressure as small as 2 mm Hg can reduce the risk of cardiovascular events such as heart attack by up to 10 percent,” Kallistratos said. “Based on our findings, if someone has the luxury to take a nap during the day, it may also have benefits for high blood pressure. Napping can be easily adopted and typically doesn’t cost anything.”

This is the first study to prospectively assess midday sleep’s affect on blood pressure levels among people whose blood pressure is reasonably controlled, according to the researchers. The same research team previously found midday naps to be associated with reduced blood pressure levels and fewer antihypertensive medications being prescribed among people with very high blood pressure readings...

New research shows that people who took advantage of a midday snooze were more likely to have a noticeable drop in blood pressure compared with those who didn’t nap.   Credit: © Dasha Petrenko / Fotolia

ARTICLE CONTINUES AT SCIENCEDAILY.COM
Forbidden planets: Understanding alien worlds once thought impossible

By Daniel Clery | Jul. 28, 2016, 2:00 PM

When astronomers discovered the first exoplanet around a normal star 2 decades ago, there was joy—and bewilderment. The planet, 51 Pegasi b, was half as massive as Jupiter, but its 4-day orbit was impossibly close to the star, far smaller than the 88-day orbit of Mercury. Theorists who study planet formation could see no way for a planet that big to grow in such tight confines around a newborn star. It could have been a freak, but soon, more “hot Jupiters” turned up in planet searches, and they were joined by other oddities: planets in elongated and highly tilted orbits, even planets orbiting their stars “backward”—counter to the star’s rotation.

The planet hunt accelerated with the launch of NASA’s Kepler spacecraft in 2009, and the 2500 worlds it has discovered added statistical heft to the study of exoplanets—and yet more confusion. Kepler found that the most common type of planet in the galaxy is something between the size of Earth and Neptune—a “super-Earth,” which has no parallel in our solar system and was thought to be almost impossible to make. Now, ground-based telescopes are gathering light directly from exoplanets, rather than detecting their presence indirectly as Kepler does, and they, too, are turning up anomalies. They have found giant planets several times the mass of Jupiter, orbiting their star...
5 worst mistakes in Cryonics

1) Not signing up ahead of time

Becoming a member, having contracts in place, and having paperwork in order should not
be a last-minute decision. Waiting until the last minute or after death results in an unnecessary
delay of care or worse - No suspension at all!

2) Not providing proof of funding

Some people believe that they can worry about funding later or if they have funding they have
put off providing funding proof to CI. This should be done annually. Failure to have proper
proof of funding on record results in a delay of care while the funding clears. This can take
weeks.

3) Not telling anyone your plans

Being reclusive, and not telling family or friends about your cryonics arrangements is not
recommended. You should not be afraid to tell those around you what your wishes are,
especially your next of kin. Wearing a cryonics bracelet, necklace or having identification or
other items in view can speak to your wishes. This is all you have when you can’t speak for
yourself. Disasters have resulted from these types of notification failures.

4) Not planning

Many think cryonics is a turnkey service where you can just sign up and let fate take over.
No matter how much you pay for cryonics you are the only one who can make sure that you
will have the best chance by planning and preparing in advance. CI has provided a lot of
information on our website and in our standby manuals to help you with this process. Those
who plan succeed - those who don’t fail.

5) Not notifying CI of Emergencies

There is no way that your cryonics provider can help you if they do not know about your
emergency. Your family, friends, standby group or next of kin must immediately contact CI
when you are having health issues or worse. Any delay in notifying us directly could result in a
poor suspension. Those helping you must have simple and clear instructions, and contacting
CI should be on the top of their list.
Who will be there for YOU?

Don’t wait to make your plans. Your life may depend on it.

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BELGIUM: Cryonics Belgium is an organisation that exists to inform interested parties and, if desired, can assist with handling the paperwork for a cryonic suspension. The website can be found at www.cryonicsbelgium.com To get in touch, please send an email to info@cryonicsbelgium.com.

BHUTAN: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr and authorities in Thimphou & Paro. Contacts: Jamyang Palden & Tenzin Rabgay / Emails: palde002@umn.edu or jamgarnett@hotmail.co Phones: Jamyang / 975-2-32-66-50 & Tenzin / 975-2-77-21-01-87

CANADA: This is a very active group that participated in Toronto’s first cryopreservation. President, Christine Gaspar; Vice President, Gary Tripp. Visit them at: http://www.cryocdn.org/. There is a subgroup called the Toronto Local Group. Meeting dates and other conversations are held via the Yahoo group. This is a closed group. To join write: csc4@cryocdn.org

QUEBEC: Contact: Stephan Beauregard, C.I. Director & Official Administrator of the Cryonics Institute Facebook Page. Information about Cryonics & perfusion services in Montreal for all cryonicists. Services available in French & English: stephan@cryonics.org

CHILE: Community oriented to provide reliable information on human cryopreservation, as far as technical scientific as well as other practical aspects. Dissemination, awareness and education on issues related to the extension of life in general and cryonics in particular. Contact José Luis Galdames via galdamesjoseluis@gmail.com or via Facebook at Crionica Chile.

FINLAND: The Finnish Cryonics Society, (KRYOFIN) was established in 2008 and is an organization collaborating with all nearby groups and organizations. Contact them at: kryoniikka.fi Their President is Antti Peltonen.

FRANCE: SOCIETE CRYONICS DE FRANCE is a non-profit French organization working closely with European cryonics groups. For more information: J. Roland Missionnier; phone: 33 (0) 6 64 90 98 41 or email: cryonicsnews.inpi@yahoo.fr • Facebook group

GERMANY: DGAB There are a number of Cryonicists in Germany. Their Organization is called “Deutsche Gesellschaft für Angewandte Biostase e.V.”, or short “DGAB”. More information on their homepage at www.biostase.de. If there are further questions, contact their Board at vorstand@biostase.de

GERMANY: CRYONICS-GERMANY is an active group providing cryonics support, including a special 8-member Standby Response Team. Members from Germany or Internationally are welcome to join. at http://cryonics-germany.org. Direct inquiries to contact@cryonics-germany.org.

INDIA: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr and authority in Bangalore & Vellore Area. Contacts: Br Sankeerth & Bioster Vignesh / Email: vicky23101994@gmail.com Phones: Bioster / 918148049058 & Br Sankeerth / 917795115939

Worldwide Cryonics Groups
ITALY: The Italian Cryonics Group (inside the Life Extension Research Group (LIFEXT Research Group)) [www.lifext.org](http://www.lifext.org) and relative forum: [forum.lifext.org](http://forum.lifext.org). The founder is Bruno Lenzi, contact him at [brunolenzi88@gmail.com](mailto:brunolenzi88@gmail.com) or Giovanni Ranzo at [giovanni1410@gmail.com](mailto:giovanni1410@gmail.com)

JAPAN: Hikaru Midorikawa is President Japan Cryonics Association. Formed in 1998, our goals are to disseminate cryonics information in Japan, to provide cryonics services in Japan, and eventually, to allow cryonics to take root in the Japanese society. Contact [mid_hikaru@yahoo.co.jp](mailto:mid_hikaru@yahoo.co.jp) or [http://www.cryonics.jp/](http://www.cryonics.jp/)

NEPAL: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr and authorities in Kathmandu. Contact: Suresh K. Shrestha / Email: [toursuresh@gmail.com](mailto:toursuresh@gmail.com) Phone: 977-985-1071364 / PO Box 14480 Kathmandu.

THE NETHERLANDS: Dutch Cryonics Organization is the local support group since 2002 and able to provide advice, standby, perfusion and shipment 24/7, in case of need. We are an active group utilizing the latest equipment. New members from The Netherlands welcome. E-mail: [info@cryonisme.nl](mailto:info@cryonisme.nl) website: [http://www.cryonisme.nl](http://www.cryonisme.nl)

NORWAY: Can help Cryonics Institute Members who need help for the transport & hospital explanation about the cryonics procedure to the Dr, funeral home and authority at Sandvika. Contacts: Gunnar Hammersmark Sandvika Begegravelsesbyraa / Phones: 011-47-2279-7736

RUSSIA: KrioRus is a Russian cryonics organization operating in Russia, CIS and Eastern Europe that exists to help arrange cryopreservation and longterm suspension locally, or with CI or Alcor. Please contact [kriorus@mail.ru](mailto:kriorus@mail.ru) or [daoila.medvedev@mail.ru](mailto:daoila.medvedev@mail.ru) for additional information or visit [http://www.kriorus.ru](http://www.kriorus.ru) Phone: 79057680457

SWEDEN: [www.kryonik.se](http://www.kryonik.se) or Facebook: Svenska Kryonikföreningen. Initially, the society will focus on providing information and assistance to those who wish to sign up for cryonics. Eventually, we also hope to provide practical assistance in cases, possibly in collaboration with other European groups.

SWITZERLAND: [www.cryosuisse.ch](http://www.cryosuisse.ch) CRYOSUISSE The Swiss Society for Cryonics is an active group with over 30 members. To join, [email_info@cryosuisse.ch](mailto:email_info@cryosuisse.ch)

UNITED KINGDOM: Cryonics UK is a nonprofit UK based standby group. [www.cryonics-uk.org](http://www.cryonics-uk.org)

United Kingdom can be contacted via the following people: Tim Gibson: phone: 07905 371495, email: [tim.gibson@cryonics-uk.org](mailto:tim.gibson@cryonics-uk.org), Victoria Stevens: phone: 01287 669201, email: [vicstevens@hotmail.co.uk](mailto:vicstevens@hotmail.co.uk), Graham Hipkiss: phone: 0115 8492179 / 07752 251 564, email: [ghipkiss@hotmail.com](mailto:ghipkiss@hotmail.com), Alan Sinclair: phone: 01273 587 660 / 07719 820715, email: [cryoservices@yahoo.co.uk](mailto:cryoservices@yahoo.co.uk)

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Please note, this list is provided as an information resource only. Inclusion on the list does not constitute an endorsement by the Cryonics Institute or our affiliated organizations. We urge our readers to use this list as a starting point to research groups that may meet their own individual needs. We further note that readers should always use their own informed judgment and a reasonable amount of caution in dealing with any organization and/or individual listed.
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PART FIVE

robert c. w. ettinger

the prospect of

immortality
CHAPTER V
Freezers and Religion

At first thought, one might expect that many religious people will be repelled by the freezer program, refusing to share in it and even denouncing it as immoral. After all, there are several obvious ways in which the program may seem incompatible with religion, if one thinks hastily and superficially.

First, the idea that death is not absolute and final, but a matter of degree and reversible, seems to do violence to the notion of “soul,” to the duality of body and spirit which plays an important part in most religions. Might it not be claimed that a freezee, after revival, would be a soulless monster or zombie? Or that to revive a corpse, and thereby recall a soul from its resting place, would be an act of blasphemy?

Second, there is implicit in the freezer program the view that modern man is not the acme of development, but represents only a rung on the evolutionary ladder; that we not only evolved from lower forms of life, but will continue to ascend, through manifold biological and bioengineering techniques, both racially and individually, changing profoundly in both outward and inward nature. Does this not put a severe strain on the idea that man was created in God’s image? In particular, can a Christian accept the notion that Jesus, in His human form, did not represent the pinnacle of development?

Third, some churchmen will see looming larger the specter of creeping secularism. With unlimited physical life in prospect, will the flocks forget about spiritual immortality? Will they turn en masse to materialism? Will they worship only the Golden Calf?

Several subsidiary and related questions also present themselves.

Forbidding as these questions may appear, I believe they will evaporate rather quickly, leaving behind only a few patches of fog which will continue to swirl for a long time.

Revival of the Dead: Not a New Problem

Hundreds of people have already been resurrected from the dead, with no fuss or question as to the abode of the soul during and after death. These were the victims of drowning, asphyxiation, heart failure, and the like, who suffered clinical death but were revived by the use of artificial respiration, heart massage, chemical stimulation, electrical stimulation, and other methods of modern medicine. An especially interesting case is that of Roger Arnsten, a Norwegian boy who drowned in 1962 and was dead for about 2.5 hours, including an estimated twenty-two minutes under water.

Roger, five, fell into an icy river on a cold winter’s day. After drowning, his body temperature continued to fall, probably getting below 75F, and of course this hypothermia prevented swift deterioration of his brain. Dr. Tone Dahi Kvittingen applied artificial respiration with a tube down the windpipe, and rhythmic pressure on the chest to force blood circulation. At the hospital, an electrode needle pushed through the chest wall into the heart revealed no beat; but the attempt at resuscitation was continued, including exchange blood transfusions, and about 2 1/2 hours after drowning a natural heartbeat resumed. In the sequel, Roger remained unconscious for
Robert Ettinger’s “The Prospect for Immortality”

about six weeks, and even went temporarily blind, and at times appeared demented, but finally made a nearly complete recovery, with slight impairment of some muscular coordination and peripheral vision. (58)

The point here is that nobody worried about little Roger’s soul. Did God, knowing he would be revived, rule that this was not really death and simply leave the soul in the body? Or did He keep the soul in escrow, as it were, and return it to the body at the moment of resuscitation? If the boy did leave his body temporarily, was he conscious or unconscious? No one knows, and no one seems inclined to make an issue of it.

Why, then, should anyone be concerned about the souls of the frozen? The mere length of the hiatus can hardly be critical: in God’s view, 300 years is only the blink of an eyelash, and presents no more difficulty than 2 and 1/2 hours.

Except quantitatively, then, the problem is not new, and the religious communities have already made their decision. They have implicitly recognized that resuscitation, even if heroic measures are employed, is just a means of prolonging life, and that the apparent death was spurious.

The Question of God’s Intentions

The cry will certainly be raised in far right religious quarters that freezing is “unnatural” and that it was not “intended” for cadavers to be revived. The answers to this should be quite obvious, but we may as well indicate them anyway.

Part of the answer lies in a recent version of a very old joke. A querulous lady objects to astronauts attempting to leave God’s green earth for outer space. “It’s against the will of God,” she says, “for man to try to live in the sky, going to the moon and Mars and such. Why can’t those people just stay quietly at home and watch TV, like God intended?”

A somewhat earlier version concerns objections to Henry Ford’s Model T. “If God had intended man to go forty miles an hour, He would have provided him with wheels instead of legs.”

This attitude is less amusing in the case of certain sects said to oppose the “interference” of physicians in the course of nature, even forbidding the use of silver nitrate in the eyes of the newborn, on the ground that God “intended” the child of a gonorrheal mother to be blinded.

It is exactly man’s nature to “go against nature.” Beasts live, even though miserably, in “harmony” with nature; but man must strive to improve both himself and his environment. It is a little dangerous to say simply, “God gave man a brain to use,” because this kind of argument might pose a problem with respect to, say, the appendix, and also because the question is not just whether to use it but how to use it. Nevertheless, modern clergymen of most denominations are now thoroughly committed to the view that the advance of science does not imply a retreat from God.

Dr. G. Ernest Thomas, Director of Spiritual Life for the General Board of Evangelism of the Methodist Church, has written: “Religion needs science . . . The purposes of God are brought into clearer focus by every new discovery of truth which the scientist makes. . . Because religion interprets God as interested no less in the fulfillment of man’s greatest possibilities as in the orderly functioning of the planets and the stars, religion honors Pasteur, Lister, Koch, Einstein, and other men of science. It recognizes the scientist as one who shares in the fulfillment of God’s purposes for His world . . . I recognize that science holds
the secret of a more abundant life than man has ever known.” (115) (The italics are mine)

However, this does not mean that every activity of science, much less every activity of a scientist, is necessarily good, and some additional discussion of the “soul” puzzle may be useful to convince the doubtful that freezing is not sinful.

The Riddle of Soul

Besides being interesting in itself, especially in light of our later treatment of the problem of identity, a brief look at this very obscure question will serve an important purpose: without denying that the soul may exist, we shall show that its definition is so vague that no one, however religious, can claim to know much about it, much less lay down moral directives about it.

In modern times, intelligent religious people apparently make little attempt to characterize the soul. It is just another Divine Mystery, rooted in faith, revelation, and especially in a kind of misty tradition. People have them; lower animals do not. (or perhaps we should say, souls clothe themselves in the bodies of Homo Sapiens, but never in those of other species.)

When are matter and spirit joined? Dr. George W. Corner says, “... most Roman Catholic theologians, Orthodox rabbis, and some Protestants hold that the soul is infused into the body at the moment of fertilization. To the Roman Catholic, the loss of an embryo, even if too small to be seen without a microscope, of whose existence its own mother is not yet aware, means its soul must dwell forever in limbo, outside the gates of heaven.” (14)

When medical knowledge was more primitive, ideas about the soul were correspondingly different. St. Augustine and St. Thomas Aquinas are said to have written that the fetus receives its soul in the seventh or eighth week of embryonic life, which is about the time it becomes an obviously recognizable human being. (14)

In 1677 Anthony van Leeuwenhoek of Delft is supposed to have regarded each sperm cell as a rudimentary embryo. His followers thought each sperm a little mannequin, itself having testes carrying tinier sperm, ad infinitum. On this basis, the German philosopher Leibniz reasoned that the first man must have carried all his descendants in his genitals, including all their myriad souls, awaiting each his turn to develop. (14)

Our main lesson from this little bit of history is that notions of soul have followed and not preceded science, and doubtless will again.

Even professional theologians have the utmost difficulty in struggling with the problem of soul. Consider the following well-meaning but pitiful effort:

“... those who oppose the materialists insist on another kind of reality, which is not accessible to the senses . . . but only to the mind . . . a nonmaterial or spiritual world, accessible only to the reason and not to the senses . . . as when you think of numbers and geometrical figures and other abstract ideas, such as unity and freedom and love, none of which can ever be seen or touched or smelled. [To this realm] belongs man’s soul . . . as well as God and whatever other spiritual beings there are.” (41) (The quotations are slightly out of order.)

That writer cannot possibly mean that God, for example, is only an abstract idea; if He were, He would be incapable of acting except through the agency of another mind. The quotation undoubtedly represents a thought,
Robert Ettinger’s “The Prospect for Immortality”

and possibly a significant one; but if so, there has been a failure of communication.

As to what the soul may be from a scientific standpoint, it is again most difficult to say. So far as I know, no one has ever devised a way to detect its existence. Since beasts, and also postulated extra-terrestrial humanoids, seem to have intelligence, personality, character, feelings, conscience, and indeed every other physical and behavioral attribute capable of detection, and yet have no souls according to religious belief, the soul seems detectable only to God.

It is also hard to see how the soul can determine identity, unless one is prepared to claim that beasts lack individuality, or that identity has a different repository in beast and man.

Perhaps, in some unclear way, the soul is not the man, but is nevertheless his most important part, somewhat as your head is not exactly you but is still the main part of you. Possibly the body can be amputated from the soul without destroying the essence, more or less as the feet can be amputated from the body without mortal damage.

It is also conceivable that the soul is physically detectable after all, but only with extreme difficulty, like the neutrino. The crudeness of our observations may be at fault. There exists, of course, a substantial quasi-religious body, the Spiritualists (séances and all that), who seem to believe in a quasiphysical soul.

Some Christians, especially those literate in science, have been so impressed with the difficulties of “soul” that they advise abandoning the word altogether. Dr. Arthur F. Smethurst, Examining Chaplain to the Bishop of Salisbury, has written: “The word ‘soul’ is another term, the use of which might well be abandoned in view of the ambiguities which surround it . . . If we are to reject the use of the word ‘soul,’ what we should substitute in place of it is probably the word ‘self.’ By this we must mean a self-conscious, rational human personality.” (109) One suspects that the substitute word retains considerable ambiguity; but if this suggestion were widely adopted, there could be little question as to the soulfulness of the resuscitees.

Since the concept of soul in the Judaic and Christian traditions is so vague and changeable, it may not be out of order to mention the ideas of other religions and peoples. In the Shinto religion, for example, there seems to be the idea not of a soul, but simply of soul (kami). Kami refers to anything of the spirit, and it comes in variable quantities. (9)

In the Indian religions - Hinduism, Jainism, Buddhism, and Sikhism - there is belief in samsara, transmigration or reincarnation; a single soul tenants a succession of bodies. (9)

Speaking of multiple bodies brings to mind the converse idea of multiple souls. Can there be more than one to a customer? Is it possible that on clinical death the soul goes to its reward, and that if the body is revived another soul, a sort of twin-soul, occupies it? After all, we know that in the case of identical twins being born, the fertilized ovum was split into two individuals with two souls; hence either there were two souls present before the split, or else an extra one was inserted when it became necessary. A similar device might handle the death-and-resurrection difficulty, if it is deemed necessary. But we hasten to repeat that the simplest solution is to regard revival as the extension of life and not its renewal, to assume that death was not real.

The theologians in good time will decide all such questions. Or rather, several schools of theologians will each evolve a whole series of accommodations to the developing insights
of science and the developing pressures of society, in the usual way.

**Suicide Is a Sin**

Elusive as the soul may be, Christians seem pretty much agreed that it is sinful prematurely to separate it from the body. Both murder and suicide are regarded as sinful under most circumstances, and this whether by act of commission or omission.

Physicians are generally required, by religious morality as well as civil law, to take all available measures to save life and to prolong it, even if the measures are not certain of success. Temporary death, or clinical death with a recognized chance of resuscitation, can hardly be deemed death at all in this connection, and hence the freezers must be recognized as a probable means of saving or prolonging life.

It will then follow that failure to use the freezers is tantamount to suicide, if the decision is made for oneself, or to murder, if the decision is made for a member of your family.

Although this argument seems to me a very powerful one, not everyone will recognize it as compelling. There will be clerics on both sides of the fence.

Bishop Fulton J. Sheen, while in no way condoning mercy killings, is reported to believe that “extraordinary” medical measures should not be taken to prolong the lives of “hopelessly” ill patients. (23) Undoubtedly many other clergymen would vehemently disagree, since the line between “ordinary” and “extraordinary” measures is an arbitrary one, and the epithet “hopeless” always represents a guess. Some would say that the withholding of medical assistance, whether “ordinary” or not, does indeed constitute mercy killing.

What emerges, then, is that some few of the clergy will insist that the freezers represent an improbable means of saving life, and a disagreeable one besides, and a presumptuous and profane one as well, and will roundly condemn it. But I think the majority will take an initially cautious view, and before long will agree that failure-to-freeze represents a denial of life, and therefore of God.

**God’s Image and Religious Adaptability**

The freezer program represents for us now living a bridge to an anticipated Golden Age, when we shall be reanimated to become supermen with indefinite life spans. Indeed, even the term “superman” may eventually become inappropriate, just as a man is not aptly described as a “superamoeba” even though we evolved from a one-celled organism.

At first thought, this cannot be other than a most disturbing prospect to the Christian, Moslem, and Jew, since it seems to promise to leave Jesus, Mohammed, and Moses behind in the mists of the pre-dawn. And yet one must not underrate the adaptability of modern religions, and in fact I believe they will succeed in reinterpreting holy writ and tradition to keep pace with science and society, as they have done so often in the past.

In earlier days, there was raw conflict between science and religion. As a prominent Lutheran theologian, Dr. M. J. Heinecken, reminds us, “Whenever there was a new discovery which went counter to the traditional beliefs, the church and its leaders were quick to protest . . . Giordano Bruno was burned at the stake in 1600 because he no longer believed in a finite, enclosed universe . . . In 1632, Galileo was forced to recant his conviction that the earth revolved and not the sun. . Martin
Luther did not think well of Copernicus for contradicting the cosmology of the bible . . . [and] . . . the church opposed . . . inoculation, anesthesia, birth control, and above all, the theory of evolution.” (41)

Happily, those days are long gone, and modern Christianity and Judaism are in the main admirably humane and forward-looking. The humanity and adaptability is wittily exemplified in two anecdotes, which came my way through Catholic friends.

The first concerns a priest who was asked by his friend, a rabbi, to contribute money to a project of the Jewish congregation, the building of a new synagogue on the site of the old. “I’m afraid,” said the priest, “the bishop would not approve my helping build a new synagogue.” He thought a bit, and continued. “However, there must be some expense involved in tearing down the old Synagogue, and to that I can contribute.”

The second concerns a priest in a French village, in the aftermath of a battle in which invaders were successfully repulsed and one of the defenders, a Protestant soldier, died. The rules forbade burying the Protestant within the churchyard fence, and he was seemingly doomed to a lonely grave. But the good Father was equal to the occasion: he buried the soldier just outside the fence, and then labored all night until he had moved the fence, so that in the morning the new grave was in the churchyard after all. This story is not quite so funny as the first, but strikes closer to home, since it concerns adaptability with respect to customs in the disposal of bodies.

Most Christian denominations have accommodated themselves to Darwin’s theory of past evolution. Dr. E. C. Messenger has written, “. . . many think there is good reason to suppose that the ‘dust of the earth’ of the Scriptural text need not and should not be taken to signify that the immediate source of the first human body was in fact inanimate matter. They see no reason why, on the contrary, the first human body may not have been fashioned by God from some animal organism, and this hypothesis has now been officially recognized by the supreme authority in the Catholic Church as open to discussion.” (71)

Accommodation to the doctrine of future evolution, of individuals as well as the species, may be in some ways more difficult. But the same writer quotes St. Augustine as saying, “Whatever men can really demonstrate to be true of physical nature, we must show to be capable of reconciliation with our Scriptures.” (71) This sums it up, it seems to me, rather nicely, even though it is scarcely more than a truism and leaves open the question of “should” as opposed to “could.”

The problem of “God’s image” in its narrower aspect should not pose too much difficulty. To be sure, man may have originally “created” God in his own image - in particular, the ancient Hebrews, I suppose, pictured God as a kind of super-goatherd but educated moderns do not seem to insist on any special physical attributes for the deity. Jesus was physically a Hebrew, but no one will assert that a Negro or an Oriental bears a more distant resemblance to God than does a Jew; or that God has any physical likeness to some of the monstrous bodies that clothe human souls. The “image” of which we speak is unquestionably a spiritual image in some sense. Maurice R. Holloway, a Jesuit writer, has said, “. . . the soul . . . is made to the image and likeness of God.” (44)
God's image, we have only broached a topic and not capped it. Much remains to be investigated.

Clearly, the soul is capable of growth and change. Just as clearly, while it may be an image of God, it is an imperfect image. Billy Graham, Billy the Kid, and Billy-down-the-block have souls differing markedly in texture from each other and from God. Every man has the duty to seek growth and betterment, both for himself and for others.

Here, then, is another chance for the religious community to view the freezer program as a challenge and an opportunity, rather than a threat. With an extended life span, the soul has a chance to grow nearer perfection. Three score and ten simply is not enough time for respectable accomplishment, in most cases; too many jobs remain undone, too many duties undischarged, too many visions too dimly seen.

In early Christian days, the apostles expected Jesus to return in their lifetimes; later, Judgment Day was anticipated at the end of the first millennium. Now, some few sects preach an imminent Second Coming, but most Christians seem willing to agree that our earthly human history may lie mostly in the future. Likewise, in Jesus’ day the average life span may have been around forty; in America now, owing to improved medical arts, including the freezer program, the average man may live for thousands of years.

In the case of the unconverted soul, surely the pious must welcome a chance to preserve his life and thereby extend the opportunity to save him. Letting him rot would seem to condemn his soul to Hell, whereas freezing him would allow future missionaries (or the same missionaries after their reanimation) another chance at him. I am convinced that conscientious Christians will take this argument very seriously.

Dr. Edwin T. Dahlberg, a former president of the National Council of Churches, has written something which seems relevant here: “... the present-day leaders of religion are beginning to appreciate the fact that science is not an enemy to be denounced but rather an ally to be welcomed as one of the redeeming forces in the life of mankind.” (16) (The italics are mine.)

Further, we must again emphasize that the religious problems associated with increased longevity will inevitably appear whether or not the freezer program is shared by the religious. Sooner or later medical science will succeed in increasing the human life span. This has already been explicitly recognized by Christian writers.

Dr. Gene Lund, professor of religion at Concordia College, is one. “Who knows but what a decade or two hence the average man will comfortably reach an age of one hundred years - at least.” (63) He goes on to say, “But science does not have, and never will have, the power to eliminate death.”

In other words, the Christian can expect, and welcome, the prospect of increased longevity, and cannot set any limits on it. At the same time, permanent death will surely come some day, however long deferred; science can give us indefinite life, but not literal immortality, not mathematical eternity. Hence the freezer program, if we take a sufficiently long view, is not so radical after all, but merely another incident in the cosmic drama. The freezer program is merely a medical means which will allow the present generation to share the longevity which our descendants will have in any case.
Conflict with Revelation

Some Protestant denominations, in particular, make much of Revelations in the New Testament, and can be expected to oppose a program that does not seem to fit their view of God’s plan for history. But Christianity as a whole is unlikely to make a stand on this issue, because the pertinent passages are so obscure and there is so much disagreement about their meaning.

For example, Dr. Merrill C. Tenney, writing about the Millennial Kingdom, tells us: “There are three main interpretations of this passage. (20: 1-6) The post-millennial view looks upon the Millennium as a period closing the conquest of the world by the preaching of the Gospel . . . His Kingdom comes. At the end of an indefinite period of peace and righteousness, He will return to judge the living and the dead, and the ages of eternity will begin.

“The amillennial view treats the thousand years as wholly figurative . . . There will be no outward and visible reign of Christ on earth until after the judgment.

“The premillennarian view holds that Christ will return to earth to abolish all outward opposition, that He will establish here an outward visible Kingdom lasting one thousand years more or less ...”(115)

There is certainly ample room here for the view that the freezer program is part of God’s plan.

It is interesting to remark the accommodation that has been made by certain modern Jews in Israel with respect to the prophecies of Messiah. Christians, of course, believe Jesus was the Jewish Messiah, although He did not seem to fill the bill well enough to convince many Jews; some modern Jews still expect Messiah to appear; but a substantial body of modern Jewish opinion, if I understand correctly, holds that the State of Israel embodies the concept of Messiah, with no haloed individual to be expected.

In a vaguely similar way, then, perhaps it is even conceivable that the freezer era -- if it develops into an age of brotherly love and a living Golden Rule, as I believe it will -- may be accepted by some as the embodiment of the Millennium.

The Threat Of Materialism

The pious have long been afraid of the know-it-all attitude sometimes engendered by science; they decry the loss of the sense of wonder at the mysterious universe. In this connection, Dr. Gene Lund has quoted a verse attributed to Peter Marshall:

*Twinkle, twinkle, little star - I know exactly what you are: An incandescent ball of gas, Condensing to a solid mass.*

*Twinkle, twinkle, giant star - I need not wonder what you are, For seen through spectroscopic ken You’re helium and hydrogen.*

But whatever the effect of scientific advancement on the man in the street, the scientists themselves usually have a very lively sense of wonder, if not of awe. Many of them, including some of the greatest, have also been deeply religious - e.g., Copernicus, Galileo, Kepler, Boyle, Newton, Priestley, Faraday, Eddington, and Pasteur, as well as a host of moderns.

Does the freezer program, then, really threaten the existence of the mass of the people in that it will become hopelessly secular and materialistic?

The answers are fairly obvious, but let us dis-
play them anyway, after devoting a few words to the always bothersome question of definitions.

A “materialist,” as the word is often used in a derogatory sense, is someone who is blind to things of the “spirit”; in extreme cases it means someone who is obsessed with wealth and sensuality and does not appreciate the values in art and in human relations. As I prefer to use it, however, it merely means someone who is not a dualist, someone who conceives of the universe as unitary, without any dichotomy between “matter” and “spirit.”

“Religion” is much harder to define. According to the Rev. M. R. Holloway, “Religion... consists in that act by which man worships God, subjecting himself to Him.” (44) But this definition seems much too narrow.

One of the organized religions, Buddhism (at least in some of its forms), does not even concern itself with a deity! Millions of Buddhists have religion but no God. Furthermore, many writers have acknowledged that Soviet communism has essentially the character of a religion. Seeking the common elements, we can probably say that the essence of religion lies primarily in extreme dedication, and secondarily in fellowship.

It is plain enough that man can get along without religion in the narrow sense - or at any rate some men can. Many men get along without it in America today, just as many got along without it in classic Athens, including great and good individuals. But whether many people could get along indefinitely without some kind of dedication and fellowship is another question, and the answer is probably negative.

It follows that the church as an institution is in no danger. It offers a formal dedication which fills a deep-felt want. It offers - even without Bingo - a warmth of fellowship hard to find elsewhere. Like everything else pertaining to man, the churches will change, but they will not die.

Perspective

The religions are willingly and foresightedly undergoing a continuing process of reexamination and adaptation in light of new discoveries and new capabilities, of which the freezer is only one. Precedent already exists for regarding preservation and reanimation of seemingly dead people as routine medical procedure, aimed simply at prolonging life. The religious problems, if any (as well as the economic and social problems) related to extended life have long existed, and will continue to grow, with or without a freezer program. When the freezer program gains momentum, religious people, except in scattered instances, are not likely to be left behind.

NEXT ISSUE:

Chapter VI: Freezers and The Law