

Centre of Biomedical Ethics and Culture

Bioethics Links

We publish this issue with a heavy heart. On December 16, Taliban militants attacked a school in Peshawar brutally killing more than 130 children along with many of their teachers. People of Pakistan have suffered similar attacks for years but this calculated, planned massacre of innocent children plumbs depths of evil for which no words can be found. Printing this *Bioethics Links* edition is our way of reiterating our commitment to education and dissemination of knowledge in Pakistan; not to do so is to give in to the militants' barbaric agenda. Editor

Drones: Aerial Assassins or Misunderstood Technology?

*Raja Sabri Khan**

Drones are probably the most advanced, and misunderstood, examples of high technology systems in the field of robotics, mechatronics and aeronautics. Also known as “Unmanned Aerial Vehicles” (UAV's) - they come in a range of sizes, shapes and functions controlled either remotely from the ground or autonomously. They are generally used to carry out tasks where manned flight is considered to be risky or dangerous. Drones mostly find use in military missions, but there has been a massive increase in their use in civilian applications such as electronic news gathering, agriculture, forestry, search and rescue, and meteorology. The technology has evolved over the years to create machines that perform their 'missions' with a high degree of stealth and precision.

How Do They Work?

The earliest drone prototypes were derived from scaled or 'model' aircraft used by hobbyist aviators. A typical drone is made of light composite materials such as fiberglass, Kevlar, and carbon fiber - to reduce weight and provide ease of low-cost manufacturing without requiring expensive tooling and dies. The lightweight composite construction provides a high power-to-weight ratio allowing drones to fly longer and higher than conventional aircraft. They are equipped with

state of the art infra-red cameras, Global Positioning Systems (GPS), laser or GPS guided missiles and other sophisticated command and control systems.

Drones are controlled through a ground control station which could be as small as a laptop in a briefcase or large, truck-mounted, shelters housing several operators at multiple locations. Drones come in a wide variety of sizes and weights ranging from a few kilograms to several tons. They can be launched by hand or from short runways. A UAV system has two parts, the drone itself and the control system. The drone is controlled from the ground by trained combat pilots or operators each performing *Continued on page 4*



“Dharnacopter:” A drone equipped with a camera hovers over people staging a political protest in Islamabad, Pakistan (<http://mashable.com/2014/09/29/drone-beat-hollywood-national-park-fine/>)

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Please let him go!

*Nida Wahid Bashir**

The phone rang and I turned over in bed glancing at the clock. It was 1:00 am and I was on-call and I hated it. I picked up the phone before my three-year old daughter decided to do so. With a mind still half asleep, I listened to the physician from the ER telling me about a 50 year old man from interior Sindh brought with abdominal pain of four days duration, an increased heart rate, low blood pressure, kidney failure and a heart working at merely 20% of its capacity. Dreading having to explore the abdomen of this very sick man, I asked for an X-ray to look for the presence of free gas in the abdomen indicating perforation of his bowel. To my relief, there was no evidence of this on the X-ray. The patient could be admitted under medical care to the ICU for stabilization with a CT scan scheduled for the next day.

The next morning, I walked to the ICU still hoping for a medical rather than a surgical cause for the patient's abdominal pain. There he was - a well built middle aged man writhing in pain and with several tubes running in and out of his body. The eyes of my young house officers and the ICU staff followed me as I approached the patient. I knew they expected me to place my "magical" surgeon's hand on his abdomen and determine and then eliminate the cause of the abdominal pain. The patient seemed to want the same, begging me to get rid of his pain. "Do something," he implored.

Dr Mujtaba, his primary physician, was of the opinion that with the patient's clinical condition it was not possible to get a CT scan. "Our CT machine is out of order and he is too sick to be moved to another hospital for the scan," he said. Exploring his abdomen was the only choice. We argued about the risks and benefits, spoke to the family, and finally convinced ourselves to give the patient a "chance."

It was midday when I opened his belly. All I

could see was black, dead intestine staring back at me. "Almost all of his bowel is dead, I am closing him," I declared. "Why don't you just take it out?" the anesthesia resident suggested the impossible, peeping over the drapes. Suddenly the patient's heart rhythm went berserk. The consultant anesthetist said, "Let's try some medications to see if we can correct the arrhythmia. It will be a good learning experience for the residents." The rhythm slowly returned to normal and I was able to close the abdomen and shift the patient, still alive, to the ICU.

"Please let him go in peace," I requested Dr Mujtaba on the phone. "Let me think," was the answer. "What do you want to think about? The pathology is incompatible with life," I almost screamed at him. "Allah can do miracles," said Dr Mujtaba. "What miracle? His intestines are dead, he cannot survive with dead intestine, just do not give him any more medications to keep his heart going. Let him go." "Well, let's discuss it," he said, and the argument continued.

The next morning I walked into the ICU hoping that the patient's misery was over. But there he was, screaming and grunting with a dropping BP and a rocketing heart rate. "Please let him go," I told the ICU in charge. "I need to ask Dr. Mujtaba, the patient is under his care," was the reply. "But you know it is futile and he is in pain," I insisted again before leaving.

The patient was finally allowed to go the next day, dozing off, grunting and drenched in perspiration to his death. As I stood there I wondered about the utility and the futility of treatments we offer, and our reluctance to accept when we have lost the battle.

A series of writings in which CBEC alumni share their professional and personal experiences with our readers.

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CBEC review: Impressions and insights

*Amir Jafarey**

The Centre of Biomedical Ethics and Culture turned ten in October 2014. We celebrated our first decade the way we know best - by creating more work for ourselves! As reported in the previous edition of the *Bioethics Links*, (accessible at: <http://www.siut.org/bioethics/Newsletter%20June,%202014.pdf>), CBEC faculty decided that the Centre needed to be reviewed by an international group of peers so that we could get an unbiased opinion regarding our accomplishments, our shortcomings and our future trajectory. The fact that such a review of a bioethics centre had never been reported in English language literature did not deter us; we are quite used to inventing our own wheels. Our reviewers were also brave to accept the challenge of the unknown and take up the onerous task of doing something they had never done before. Their commitment lasted much longer than the four days they spent on campus; it consumed several weeks thereafter during which the eight willing academics visited CBEC, toiled hard to make sense of what they observed, and to put it all in a report that was submitted to the SIUT Director in June 2014. Their findings resonated with those of three external evaluators who had submitted their analyses based on their experience with CBEC and its activities and a faculty report that had been sent to them.

Our reviewers found the academic programs to be rigorous, interactive and challenging. Commenting on the course work they said, "The quality and topic range of the modules are world class." Regarding the impact of the programs, they opined that CBEC's "bioethical influence has extended beyond its office walls to other medical and also non-medical institutional settings ..."

The review team found several distinctive

features of CBEC which set it apart from other bioethics centres around the world. In the opinion of one reviewer, among CBEC's most distinguishing characteristic(s) was the "inclusion of the term and concept of 'Culture' in its name" and the attention given to religion as a source of ethics. Another commented that, "CBEC's conception of 'culture'... attempts to link 'particularism' and 'universalism' through its recognition of the 'commonalities' along with the dissimilarities that persons who belong to different societies and cultures bring to a moral life ... This kind of multi-faceted and knowledgeable perspective on culture(s) is one of CBEC's most distinctive attribute. It is a perspective that is minimized or marginalized, if not largely ignored by many other bioethics centres."

Reviewers noted that an important feature of the teaching is "how well grounded instruction is in the clinical realities that students face in their professional lives. A fine balance is struck between didactic teaching and exposure to conceptual bases of bioethics ... many programs in the West and elsewhere, fail to find this balance."

The review team also appreciated the formal inclusion of literature, *Continued on page 7*



Whiskered guests: Last month, CBEC was host to a family of kittens that took temporary residence with their mother on one of the Centre's window sills.

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a discrete function. When surveillance is the objective, live video streams from onboard cameras are sent to satellites from where they are received by ground forces to form attack strategies and locate vulnerable areas. Drones can fly at extremely high altitudes to avoid detection. Along with all these features, comes a heavy price tag. A military drone system, such as the Predator, along with the ground control system costs around \$50 million.

Drone applications

Drones were initially developed to carry out surveillance and intelligence operations. Since drones had removed the “human element” - they found further uses in other fields which involved risking human lives such as search and rescue, monitoring radioactive contamination, weather and meteorological research, flood and irrigation control, asset monitoring (oilfields, gas pipelines). Today, an army which has a fleet of drones is considered to have the upper hand.

Drones are used in situations where manned flight is considered too risky or difficult. They provide troops with a 24-hour "eye in the sky", seven days a week. Each aircraft can stay aloft for up to 17 hours at a time, loitering over an area and sending back real-time imagery of activities on the ground.

The politics of drones

Drone legislation and the use of drones in both civilian and military regulated airspace is a subject of constant discussion around the world. A 'Wild West' scenario prevails currently where any person or government with access to the technology uses it in a manner they seem to find suitable for the objectives. This unregulated use of drone technology is seen as having far-reaching consequences into the ethics and privacy invasion issues that uncontrolled dissemination of other dual-use technologies has caused in the past.

Although the US does not speak publicly about operations involving drones, President Barack Obama has confirmed the US is using unmanned aircraft to regularly target suspected militants in tribal areas of Pakistan. He has defended the drone attacks, saying they made precision strikes and were kept on a "tight leash". The use of such unmanned aircraft in the area began under President George W. Bush, but has more than doubled under the Obama administration.

The drones used by the United States Air Force and Royal Air Force range from small intelligence, surveillance and reconnaissance craft - some light enough to be launched by hand - to medium-sized armed drones and even larger 'spy' drones.

Drones are seen by many in the military as delivering precision strikes without the need for more intrusive military action. However, they are not without controversy. Hundreds of people have been killed by the strikes in Pakistan - civilians as well as militants, causing outrage. One of the deadliest attacks was in March 2011 when 40 were killed, many believed to be civilians at a tribal meeting.

Drone control bases may be local to the combat zone or thousands of miles away - many of the drone missions in Afghanistan are controlled from Creech air force base in Nevada, USA - although take-off and landing are always handled locally.

CIA leadership has recently said that drones are “the only game in town.” The CIA has been using drones in Pakistan and other countries to assassinate “terrorist leaders.” While this program was initiated by the Bush Administration, it has increased under Obama and there have been 41 known drone strikes in Pakistan since Obama became President. Analysis by an American think tank The Brookings Institution on drone attacks in Pakistan has shown that for every militant leader killed, 10 civilians also *Continued on page 5*

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have died.

The UN's Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston, has said that the use of drones is not combat as much as 'targeted killing'. He has repeatedly tried to get the US to explain how they justify the use of drones to target and kill individuals under international law. The US has so far refused to do so. In a report to the UN he has said the US government (and by implication the UK government) “should specify the bases for decisions to kill rather than capture particular individuals ... and should make public the number of civilians killed as a result of drone attacks, and the measures in place to prevent such casualties”.

A further question is the extent to which operators become trigger happy with remote controlled armaments, situated as they are in complete safety, distant from the conflict zone. Keith Shurtleff, an army chaplain and ethics instructor at Fort Jackson, South Carolina worries “that as war becomes safer and easier, as soldiers are removed from the horrors of war and see the enemy not as humans but as blips on a screen, there is very real danger of losing the deterrent that such horrors provide.”

Military drone manufacturers are looking for civilian uses for remote sensing drones to expand their markets and this includes the use of drones for domestic surveillance. Drones will no doubt make possible the dramatic expansion of the surveillance state, raising new concerns about the limits of government intrusion and policing of society. With the convergence of other technologies it may even make possible machine recognition of faces, behaviors, and the monitoring of individual conversations. The sky, so to speak, is the limit, and new quandaries related to privacy will arise.

The future

As with many technologies, a lot depends

on the ends they are used for. Drones are being used for many beneficial purposes. New applications are coming into picture as the work efficiency and tolerance capacity of drones have surpassed all expectations.

Civilian applications such as 'drone journalism' - small quad copter drones equipped with cameras known as “dharna copters” - are a regular feature on Pakistani TV channels. Other uses such as agriculture, ocean mapping, search and rescue, and medical supply deliveries are being tested and evaluated around the world.

Drones are here to stay. The technology has evolved and progressed over the last decade and spin-off applications are filtering into many other fields such as distance education, telecommunications, commercial film-making, biomedical engineering etc. It is up to humans to use technology for constructive rather than destructive ends. The technology and machines are truly human ingenuity at its best and most creative - encompassing the best of aerospace, mechanical, electronics and software engineering.

There just might be a day, not far from now, when children will be told that aircraft were once flown by human pilots.



Building Drones for Pakistan: Raja Sabri Khan leads a CBEC Forum discussion about how technology can be used for both destructive and constructive human ends.

Workshop at Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, October 23-24, 2014



Drs. Farhat Moazam and Aamir Jafarey were invited by Dr. Asghar Channa, the Vice Chancellor of Shaheed Mohtarma Benazir Bhutto Medical University (SMBBMU), Larkana, Sindh, to conduct a bioethics workshop on October 23-24, 2014. Larkana is more than 450 kilometres away from Karachi near the historic ruins of Mohenjo Daro, an Indus civilization dating back to 5000 BC.

The workshop was conducted at Chandka Medical College and began with a well-attended opening plenary session. Participants were introduced to bioethics, highlighting traditional codes and the evolution of modern bioethics. The session was followed by the workshop for about thirty senior faculty members including professors and heads of departments.

The first day of the workshop focused on research ethics while the second day was devoted to clinical ethics. CBEC videos and case scenarios were used to generate discussion on different issues. At the conclusion of the workshop, the Vice Chancellor requested CBEC to conduct another workshop in the next few months for younger faculty of SMBBMU.

Workshop for Balochistan Bioethics Committee Members, Quetta, November 13-15, 2014



The National Bioethics Committee of Pakistan (NBC) organized a two day, Research and Clinical Ethics Workshop in Quetta, from November 14-15, 2014. This was part of training Balochistan's newly appointed Provincial Bioethics Committee (PBC). The workshop followed a scheduled meeting of the NBC and the inaugural meeting of the PBC of Balochistan. PBC members and other health care providers of the province attended the workshop.

Together with Dr. Farhat Moazam who chairs the NBC's Healthcare Ethics Committee, Dr. Aasim Ahmad, Chair of the Research Ethics Committee and Dr. Aamir Jafarey also a NBC member, Mr. Shaukat Jawaid, medical journalist and past member of the NBC, facilitated workshop sessions.

On the first day the focus was on clinical ethics while the second day's sessions were related to research ethics. While appreciating the usefulness of the workshop, participants voiced a need for further workshops for the PBCs being appointed in different provinces. Accordingly, an ethics workshop will be held in Azad Kashmir in March 2015 together with the next NBC meeting.



5th National Bioethics Conference, Bangalore: Dr. Moazam receives a scroll from Dr. G.D. Ravindran, Professor of Medicine and Ethics, (St. John's Medical College, Bangalore), at a 'Felicitation' ceremony to commemorate her life's work.

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poetry and humanities in formal educational sessions. They were particularly pleased with the way CBEC faculty keep in touch with the alumni and facilitate them in their various bioethics related activities. The efforts made to keep the network of alumni engaged in bioethics, years after their graduation was also noted.

While acknowledging the Centre's achievements at national and international levels, the reviewers however felt that the small core faculty could eventually "burn out" if faculty and support staff were not increased, strongly recommending an increase in their numbers. While impressed by the research output from CBEC over the last decade reviewers recommended that we devise a research agenda and appoint faculty specifically trained in research to be able to use our potential to the optimal. Dr. Adib Rizvi, SIUT's Director, knows how to consolidate his successes. Based on the review recommendations, he has asked CBEC to embark upon an immediate expansion of its programs.

Needless to say, CBEC faculty was delighted with the report! We also found the review process to be a learning experience providing us new insights into ourselves, while also helping us to chart our future directions.

**5th National Bioethics Conference (NBC), Bangalore, India
December, 11-13, 2014**

CBEC faculty, Dr. Farhat Moazam and Dr. Bushra Shirazi, participated in the 5th NBC, held in Bangalore, India. In her keynote talk, Dr. Moazam spoke about "The Dualism of Biomedicine: A Cartesian Heritage." Critiquing modern medicine, she explained that Descartes' philosophical theory of the 16th century, separated body and mind into distinct realms and freed science from the dominance of religion. However, this also led to a dehumanized medicine in which patients are not perceived holistically but as biological machines, that need to be "fixed." She also spoke about the ways in which healthcare professionals in Pakistan and the region have reduced medical ethics to a mantra of four philosophical principals while disregarding local values and social realities that are intrinsic to human relationships.

Dr. Shirazi ran a workshop "Watching Bioethics" for a group of physicians, community health workers and others. She shared CBEC's experience in making short, teaching videos on a modest budget with professional colleagues and alumni volunteering as actors and scriptwriters. CBEC's latest production "Walking a Tightrope" was also shown. Dr. Shirazi also participated in a panel discussion about unethical practices in interactions between biomedical professionals and the pharmaceutical industry.

A surprise in store for Dr. Moazam was a "Felicitation Ceremony" organized by NBC to honor her for "her life's work in the promotion of bioethics education" and "her efforts to support ethical organ transplantation programs."



New members of the CBEC family: The outgoing PGD Class of 2014 at a farewell dinner hosted by Dr. Moazam, following their final examinations in the last academic module, December 1-6, 2014.

Standing (from left to right): Nazli Hossain, Asma Nasim, Habiba Sharaf Ali, Faisal Rashid Khan, Salman Ahmed Tipu and S. H. Kolambage; Seated (from left to right): Altaf Ahmed Talpur, Faiz Ahmed Raza, Faiza Bashir, Quratulain Omaer and Ali Raza

13th Annual Shaukat Khanum Memorial Cancer Hospital and Research Centre Symposium Lahore, November 23, 2014

Dr. Aamir Jafarey participated in the 13th Annual Shaukat Khanum Memorial Cancer Hospital and Research Centre Symposium on November 23, 2014 via Skype. The CBEC video "A Matter of Trust" was used to highlight ethical issues in clinical research. The participants of the panel included IRB members, researchers and senior hospital administrators. The session was organized by Dr. Mariam Hassan, alumnus, PGD (Class of 2010).

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CBEC completes its 6th PGD cycle in December 2014

In December, current PGD students (Class of 2014) completed their year-long diploma course and became new members of the CBEC family. The following extracts are selected from their written feedback in which they shared their perceptions about the impact of the PGD program on their professional and personal lives.

"It has been a year of challenging long held notions. A journey of self discovery and finding answers to disturbing questions. The program has made me more tolerant of divergent views."

"The most important thing I came to know after my PGD is in order to change my country for better I need to understand my people. Particularly, I need to sympathetically understand their love for their religion, only then can I do something positive for my country."

"Previously, the ultimate goal of informed consent to me was to get it signed from the participants, however I have learned that it is a process rather than merely a piece of paper."

"Now I see my patients from an entirely different angle. I respect them more. I listen to them more attentively and I try to ask them what they want."

"It has made my life more difficult for example when dealing with my patients and making decisions regarding their health care, especially illiterate persons & persons with poor socioeconomic status ... I have to think not to infringe or violate their rights."

"I feel there is responsibility on my shoulders to teach others about the discipline as I was fortunate enough to be part of this course. I feel I can bring change by sensitizing and making them recognize the ethical issues around."