SAC Aids Admissions Process with Student Insights

For some, it may be a distant memory, while for others, one easily recalled, but the experience of preparing for college with the necessary visits and interviews may rank among life’s most harrowing. Not only is there fear of being academically unqualified, or of sounding foolish to an admissions officer, but also of not fitting in, of clothes and hair not being right, of being so young.

The Student Admissions Committee (SAC), a large group of WU students from all undergraduate levels and divisions, works at smoothing over some of the bumps in the admission process for prospective students.

“Everything we do is for prospective students, with the goal of their coming to WU,” agreed cochairpersons, Sara Johnson and Mitch Berman, both of them law school-bound seniors. “We all want the best student body possible.”

The functions of the committee include calling prospective students during winter break and the year on the Wide

Poll Reveals Freshmen Rate WU Academics High, Social Life, Low

 Replies to a questionnaire distributed last semester to freshmen at WU have recently been tabulated.

Designed to collect information about student attitudes for the WU Admissions Office, the project was the joint effort of William H. Turner, director of Admissions, and Hazel Z. Sprandel, associate director of the Career Counseling and Placement Office.

The responses to the questionnaire clearly showed that freshmen are satisfied with the University as an academic institution. Over 85 percent of the 313 respondents thought the faculty excellent or good, and almost 70 percent rated the teaching at WU as excellent or good. Some 80 percent thought very highly of the size of the school. The research reputation of the University also received high marks.

The data also indicated several problem areas. More than a quarter of the respondents were not satisfied with academic advising, and a third of the students thought the student-faculty ratio only average. Twenty percent gave an unsatisfactory rating to student-faculty interaction. There was substantial dissatisfaction with food service facilities and only a quarter were satisfied with social activities at WU. Questions about a number of other aspects of campus life also were asked in an attempt to gain a comprehensive view of student attitudes.

Two Engineering Fellowships Honor Dean Emeritus Harold P. Brown

When Harold P. Brown, now assistant dean emeritus of WU’s School of Engineering and Applied Science, retired in 1977, he was honored with the establishment of the Harold P. Brown Engineering Fellowship Competition.

Beginning in the fall of 1978, Brown Fellowships will be awarded to two students entering the School of Engineering as juniors participating in the Three-Two Plan. The Brown Fellow will receive full tuition plus a stipend of $500. The fellowships will be renewable for a second year and will be awarded on the basis of merit only, that is, on academic and extracurricular records established at the students’ participating Three-Two college and on the students’ promise for professional achievement in engineering and applied science.

In the Engineering School’s Three-Two Plan, a student takes three years of liberal arts at one of the associated or corresponding colleges cooperating with WU in the plan and two years of professional training at WU. These students earn a bachelor’s degree from their college and an engineering degree from WU.

Brown initiated and developed the Three-Two Plan, which is now responsible for 20 percent of the upper-division students in the Engineering School. He also
called a “batmobile.”

Parnelli rubiginosus, and the object is wheels. Fastened securely underneath, a in Professor of Biology Nobuo Suga's head from side to side. The creature is a small, brown, furry creature throws its hair-thin wire on two white plastic everything in between, is adapted to use a daylight because of their poor eyesight. But the mustache bat performs an interesting variation on this theme. Within a specific range, its auditory system, which includes its ears, brain and everything in between, is adapted to use a particular frequency of sound, 61 kHz. (61,000 cycles per second.) While North American bats emit mainly an FM (frequency modulated) signal for echolocation, the mustache bat always emits a short FM signal plus a long CF (constant frequency) signal of about 61 kHz. A CF signal has certain advantages over an FM signal. The CF signal concentrates sound energy in a single frequency so that it is easier for the bat to pick it out of background noise when it returns as an echo. Because it uses CF signals, the mustache bat performs another interesting variation called “Doppler-shift compensation.”

A Doppler shift is a change in sound frequency caused when either the source of a sound or the receiver of a sound is moving relative to the medium through which the sound waves are traveling. For example, if an observer is riding on a train that is approaching a crossing, the crossing’s warning bell will seem to clang more rapidly and at a higher pitch the closer the train comes to the crossing. This Doppler effect makes the frequency of the bell’s clanging seem to shift, in this case, to increase.

The awkward object slides down a hair-thin wire on two white plastic wheels. Fastened securely underneath, a small, brown, furry creature throws its head from side to side. The creature is a Panamanian mustache bat, Pteronotus parnellii rubiginosus, and the object is called a “batmobile.”

The batmobile is part of an experiment in Professor of Biology Nobuo Suga's laboratory where he is studying the mustache bat's biosonar system, which differs from that of all North American bats and which man can mimic only with sophisticated electronic equipment.

All bats, of course, use sonar (sound navigation and ranging) to find their way around in the dark, and even in the daylight because of their poor eyesight. But the mustache bat performs its own unique variation on this theme. Within a specific range, its auditory system, which includes its ears, brain and everything in between, is adapted to use a particular frequency of sound, 61 kHz. (61,000 cycles per second.) While North American bats emit mainly an FM (frequency modulated) signal for echolocation, the mustache bat always emits a short FM signal plus a long CF (constant frequency) signal of about 61 kHz. A CF signal has certain advantages over an FM signal. The CF signal concentrates sound energy in a single frequency so that it is easier for the bat to pick it out of background noise when it returns as an echo. Because it uses CF signals, the mustache bat performs another interesting variation called “Doppler-shift compensation.”

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The same Doppler shift occurs to the sound emitted by a bat. The 61 kHz signal emitted by the mustache bat in flight will return, for example, as a 63 kHz. echo. Because the mustache bat's auditory system is tuned to 61 kHz., it is better equipped to analyze an echo of that frequency. So, the bat compensates. If it detects a Doppler-shifted echo of 63 kHz., it will begin to emit a lower frequency so that the returning echo will remain at 61 kHz.

Suga and his former student, Professor Philip Jen (now at the University of Missouri at Columbia) found that 30 percent of the mustache bat's auditory cortex is devoted to analyzing this 61-63 kHz. signal. A principle similar to that followed by other mammals seems to be working here: the more important a function is to a species, the greater the area of the brain devoted to that function. Echolocation is imperative to the mustache bat's survival. Through evolution this bat has developed a particular signal and the appropriate auditory mechanisms which enable it to locate an insect, judge its distance, speed and the direction of its flight and even determine whether the insect is of a particularly appetizing species.

Because the mustache bat has such a strong affinity for a 61 kHz. signal that it compensates for the Doppler shift of the signal's echo, the batmobile experiment was developed to determine just how accurate that compensation is. Suga is involved in the study of the bat's brain; (continued on page 3)
so his postdoctoral associate Bill O’Neill and several undergraduates in the biology honors program, mainly Dan Kuriloff and Tad Berry, have conducted the experiment for the past semester and a half. They have found the mustache bat’s Doppler-shift compensation to be fairly accurate, as originally described by Professor Schnitzler (now at University of Marburg, Germany), and have discovered what Suga believes to be the reason other researchers could not find Doppler-shift compensation in mustache bats.

According to Suga, these bats must be placed in as realistic a setting as possible before they will exhibit Doppler-shift compensation. If the bats, which are kept in confined quarters during their trip from Panama, are taken from this environment and put in an experimental situation that does not mimic the bats’ natural flight, no Doppler-shift compensation will occur. If they are taken from confined quarters and used in the bat-mobile experiment, 25 percent of them Doppler-shift compensate. And if they are placed in a dark room in a cage in which they can fly around for a period of time before they are used in the bat-mobile experiment, then a great percentage of them will compensate for Doppler-shifted echoes.

Suga and O’Neill are the only neurophysiologists in the world now experimenting on the auditory system of the Panamanian mustache bat. They support WU’s reputation as a major center for bat research. In addition to their research, Peter Wasserbach and Ted Sullivan, neurobiology graduate students, are researching bat biosonar in the big brown bat, one of Missouri’s common species of bats, and Associate Professor of Psychology James Simmons is researching bat behavior.

Their research adds to the knowledge of basic brain functions in all mammals, including man. Of his research, Suga says, “it is very clear that our research greatly contributes to the understanding of hearing systems, that is, of their basic neural mechanisms.”

O’Neill and Jim Jaeger, Suga’s laboratory technician, will travel to Panama early in April to collect more mustache bats. And in coming months, Science magazine, a prestigious weekly publication, will publish two more articles in a series of four written by Suga and his coworkers explaining the details of his research to the scientific community.

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Calendar
March 24-30

FRIDAY, MARCH 24


SATURDAY, MARCH 25

MONDAY, MARCH 27
2:30 p.m. Department of Chemical Engineering Seminar, “Modeling Trickle Bed Reactor Processing Volatile Liquid Reactants,” A. Germain, prof. of chemical engineering, Universite de Liege, Belgium. 100 Cupples II.


8 p.m. Hillel Lecture, “Israel and the Palestinians,” Shlomo Avineri, prof. of political science, Hebrew U., Jerusalem, Israel, Hillel House, 6300 Forsyth.

TUESDAY, MARCH 28


WEDNESDAY, MARCH 29
11 a.m. Martin Luther King Symposium Lecture, “Readings and Commentaries,” Nikki Giovanni, poet, reading selections from her works. Graham Chapel.


8:30 p.m. School of Architecture Lecture, “Post-Modern Architecture,” Robert A. M. Stern, NY architect and author. Steinberg Auditorium.

THURSDAY, MARCH 30


MUSIC
FRIDAY, MARCH 24
8 p.m. Office of Student Affairs Concert, The Boys of the Lough, performers of traditional folk music of the British Isles. Graham Chapel. General admission $5.50; $4.50 for WU students with SU card in advance. Tickets available at Edison Theatre Box Office and Streetside Records in Webster Groves.

8:15 p.m. WU Choir Concert, Orland Johnson, WU prof. of music, director. The program will include the “Chichester Psalms,” by Leonard Bernstein, and “Songs of Praise,” by Salamone Rossi. United Hebrew Congregation, 225 S. Skinker.

8:30 p.m. Women’s Programming Board Concert, with Kay Gardner, flutist, singer and songwriter. Women’s Bldg. Lounge. Admission at the door $3; $2 for WU students.

SATURDAY, MARCH 25
12 noon. WU Wind Ensemble “Pops” Concert, Dan Presgrave, director. Plaza Frontenac.

SUNDAY, MARCH 26
8 p.m. Department of Music Electronic Music Concert, including student compositions created on ARP and Moog synthesizers, combining traditional and electronic instruments and pre-recorded tapes. Tietjens Rehearsal Hall, 6500 Forsyth.

THURSDAY, MARCH 30
8 p.m. Department of Music Faculty Concert, with WU instrumental instructors William Martin, viola soloist and George Silifies, piano. The program will include works by Fasch, Schubert, Hindemith and Brahms. Martin and Silifies are also members of the St. Louis Symphony Orchestra. Steinberg Auditorium.

Poll
(continued from page 1)

The questionnaire was primarily intended to provide information useful to the Admissions Office in its continuing attempt to portray WU to prospective students. But the data are also being distributed to the deans of various academic divisions and the directors of other components of the University for their use in assessing operations, and when appropriate, responding to problems. Plans now call for the survey to be conducted annually as an aid to measuring the results of improvements and changing student attitudes.

EXHIBITIONS
“Recent Works,” an exhibit of works by Gyorgy Kepes, Distinguished Visiting Louis Beaumont Professor of Art. WU Gallery of Art, Steinberg Hall, upper gallery. 9 a.m.-5 p.m., weekdays; 1-5 p.m., Sat. and Sun. Through April 2.

“Leonard Baskin: Images of Man,” a dual exhibit on this contemporary artist and illustrator on display both in the WU Gallery of Art in Steinberg Hall and in the Rare Book Department of Olin Library. Hours are 9 a.m.-5 p.m., Mon.-Fri., and 1-5 p.m., Sat. and Sun. in the Gallery; 8:30 a.m.-5 p.m., weekdays, in the Rare Book Department. Through April 2 at both locations.

“Chinese Painting by L. S. Shaw (Hsiao Li-sheng),” an exhibit of ink and watercolor works by this well-known contemporary Chinese artist. WU Gallery of Art, Steinberg Hall, lower gallery. 12 noon-5 p.m., Mon.-Fri., 1-5 p.m., Sat. and Sun. Through March 28.


FILMS
FRIDAY, MARCH 24
7 and 10 p.m. WU Filmboard Series Double Feature, “Bananas” and “Love and Death” (8:30 and 11:30 p.m.). Brown Hall Theatre. Admission $1.50. (Also Sat., March 25, same times; Brown; and Sun., March 26, 8 p.m. and 9:30 p.m., Wohl Center.)

SATURDAY, MARCH 25
8 p.m. Office of Student Affairs Double Feature, “42nd Street” and “On the Town.” Restock Auditorium. Admission $1.

MONDAY, MARCH 27
5:30 p.m. S-40 Crafts Guild Film Series, “Lorraine Hansberry: The Black Experience in the Creation of Drama” and “Yonder Come Day.” Wohl Center Formal Lounge.

7:30 p.m. WU Filmboard Series Double Feature, “Red Dust” and “China Seas” (9 p.m.). Brown Hall Theatre. Admission $1.50 for either or both films. (Also Tues., March 28, same times, Brown.)

TUESDAY, MARCH 28
12 noon, Tuesday Women’s Film Series, “Got To Tell It: A Tribute to Mahalia Jackson” directed by Werner Herzog. German with English subtitles. Brown Hall Theatre. Admission $1.50. (Also Thurs., March 30, 9:45 p.m., Brown.)

9:45 p.m. WU Filmboard Series, “The Green Wall.” Brown Hall Theatre. Admission $1.50. (Also Thurs., March 30, 7:30 p.m. Brown.)