Salt to Fresh

## Visiting Chemist Discusses Four Conversion Processes

slides and a lecture on fresh

In the lecture Dr. Keighton is a necessity of life, there are readily available. Ninety-seven per cent of water is in seas and oceans; two per cent of atmosphere.

Sea water contains about 35 thousand parts per million of dissolved solids.

There are four principal processes for the conversion of sea water to fresh water: Electrodynalysis, Freezing Method, Zauchin Process, and Distilla-

In the process of electrodynalysis salt water is fed into a tank containing a series of semipermeable membranes. The sodium ions are positively charged and the chlorine ions are negatively charged. Terminals in the tank are connected to a source of direct current. The positive sodium ions are drawn toward the negative terminal. In doing so, the sodium ion passes through the two membranes. The negative chlorine ion is drawn through the semipermeable membrane toward the positive terminal. It can pass through only one semi-permeable membrane and is trapped. The remaining water after the passed through the semiper-

On Tuesday, March 3, Dr. The salt content of sea water Keighton, the Chairman of the is high in relationship to the Chemistry Department of Swarthmore College presented the observation of that fact, a water from sea water. Mr. process was developed to pro-Keighton is the author of sev- duce water with a low salt coneral books and is a consultant to tent by freezing. In the process, the Philadelphia Geological So- 20% of the ice is melted and thrown away. The remaining water contains about 2,000-3000 explained that although water is a necessity of life, there are solids. The process is continued many places where it is not until the number of dissolved solids is gradually reduced.

The Zauchin process was developed in Israel. This process water is in rivers and lakes; one involves spraying sea water into per cent in snow, ice, and gla- a vacuum where evaporation of ciers; and only .005% in the part of the water cools the remainder to freezing. The brine seeps through the belt and is discarded. The vapor is compressed and pumped to second-vessel when it meets the ice. The ice is then melted. The chief expense in this method is the capital investment in pumps and compressors.

The distillation process is the oldest process of water conversion. The record goes back to 1573 of water being prepared by this method on shipboard. In this method a distilling flask of sea water is heated until it boils. The vapor is then condensed into water.

Until ten or fifteen years ago this was a very expensive process. Water for Cuba will probably be produced by this distillation process.

Dr. Keighton ended his lecture by giving some relative cost of water for cities in our area and the costs of producing water by the methods he had discussed.

This talk was sponsored by the Chemistry Department headsodium and chlorine ions have ed by Dr. S. L. Burson. Dr. Keighton spoke to both day and meable membranes is relatively night students on two separate



After the program Rev. Stam-

After assuming his present post in Charlotte, he was one of twenty-six ministers who were chosen on a nationwide basis to spend two weeks doing missionary work in Alaska. Each of the twenty-six ministers were allowed to bring one layman along with him and Rev. Stamey invited WBTV newscaster Doug Mays.

completing his seminar work at Duke, he served in pastorates in

such cities as Belmont, Pineville,

High Point, and North Wilkes-

College Christian Association

The program which Rev. Stamey presented to the CCCA consisted of slides which he took while in Alaska with a taped narration by Doug Mays. These slides gave the members a peek



Drinkalls give us first taste of classical music.

## String Duo Performs; **Enjoyed During Break**

By Sam Lindeman

tation, gave students who took a break during the concert on the 13th cause to regret their actions. Those who failed to atexcellent example of instrumental solo work made interesting, and a sterling display of skill.

violincello, performed works by Vivaldi, Gliere, and Kodaly in a concert that lasted little more and Cello, op. 7.

In this work, Mrs. Drinkall, jority of the audience asking in a fine performance in the off- the Registrar's Office can do only one, and it would take a nothing for them at all, until little doing to block it, but I back for three well-deserved curgreat team, and they are homegrown. Miss Deane is Mrs. Maestoso e largamente-Presto. Drinkall in real life, and they are parents of a four-month old son. They hail from right out of just returned from a tour of the one has the melody now?" At Midwest prior to their appearance at Charlotte College. They Mr. Drinkall was playing at the are both professional musicians; Mr. Drinkall is an Assistant in the same octave as his part-Professor of Music at Queens College, and Mrs. Drinkall team appear to be in trouble, teaches, in addition to their concert work. Mr. and Mrs. Drinkall are exclusively solo performers as contrasted with orchestra work, although they both play with the Queens College Chamdifferent works intended by their to make the duo a permanent af- pay the fines due. composers for this combination of instruments.

Samuel O. Lindeman, Chairprofited by the decision. The man of the Committee stated, "I deal of standing in line, come

movement of this work, the cello was particularly well displayed as a solo instrument, allower two appearances in the played as a solo instrument, allower two appearances in the pay of my two co-workers, other two appearances appearance and the pay of my two co-workers, other two appearances appearances appearance and the pay of my two co-workers, other two co-workers, ot work, putting his instrument lege.

through some real solo acroba-Our Lectures and Concerts this writer got a sense of gen-Committee, in its third presenuine respect for a display of sheer technical skill. In the fol- fic Cradle Song, and Gavotte, particularly the Gavotte, there were assignments of sustained har-non-registered cars' State registered cars will restrict their tend this presentation missed an assignments of sustained harmonic accompaniment which put the instrumentalist to a test of technique. Mr. Drinkall Derry Deane, playing the vio- met the tests quite well, and lin, and Roger Drinkall the came back for more in the final

> sages of the final movement, In this movement, too, the Duo traded solo parts so smoothly that at one point this writer was design limits of his instrument, ner's violin. At no time did the and the false notes that can plague an instrumentalist when he plays solo were utterly lack-

Mr. Drinkall studied his mu-

## Traffic Tickets In Focus

Stamey Speaks To CCA

The members of the Charlotte | general area of the Cook Inlet.

tics during the entire concert, unregistered cars, either for if they write for a transcript at lowing pieces, Gliere's Prelude, nounced enforcement policy, the registration sticker this year, State Department of Motor Ve- those interested, hicles, for identification of the parking and traffic rules: registered owner. The Committaken off the individual's file jacket in his office.

tunate few. The Traffic Committee has issued twenty citations Students and non-registered Charlotte, although they had asked by his neighbor, "Which as of Wednesday of this week faculty members should stay out (March 18). These people have from behind the Kennedy Buildseveral points in this selection, until Friday to either pay up ing, and off Faculty-Visitor or appeal. After Friday, the Row. 20th, they can, like the others, voked by the man who issues it, only pay. The fine is one dollar so don't give him a hard time; per citation, and there is one if you want to appeal the citaindividual in the Registrar's tion, say so on the back, sign Office right now, who has five traffic citations to his debit. Office. Give your reason for the with the Queens College Chamber Quartet and the American Chamber Ensemble, from New adelphia, and his wife hers at the Friday of the week in which that you are expected to pay the York City. They have researched the equally well-known Eastman they were issued. Staff members works for the violin-violin- Institute at Rochester, New with delinquent citations will not at the Registrar's Office. cello duo, and, so far, they have York. They met at the Universi- be allowed to register their autofound and mastered twenty-five ty of Illinois, where they decided mobiles next fall, unless they billets-doux should bring it in,

Vivaldi, according to Mr. concert was thoroughly enjoyed do not make the rules; I merely registration time, or a trip back Drinkall, is known for his con- by most who attended, and was enforce them. Students and Staff out here to pay a fine, come ciseness of composition, and this received warmly. Our Lectures members who park in violation time to have the Registrar send was evident in his Sonata for and Concerts Committee, like of the rules that the Student a transcript. If you have lost Violin and Cello. In the first nearly everything else here, on Council made are doing nothing the citation, come in anyhow. though it is usually in an accurrent series. We hope this companying assignment in the work will continue to be as well-ment Association funds. We payment of a traffic fine clears symphony or chamber orches- supported by the students and have been hampered because of the record, just as does payment tra. Observing Mr. Drinkall at staff members at Charlotte Colour lack of STUDENT registor of a library fine. We don't have tration stickers, but we have not a point system."

Many drivers have transgress- been stopped, and we'll continue ed our traffic rules since the our work, as a great number of semester began, and a total of people will discover when they 129 traffic citations in the Busi- try to register for the next Sumness Office are awaiting either mer Session or for the Fall payment of fines or appeal. Of Semester next year. Come to these, 74 have been issued to think of it, they'll get a shock non-registration, or for parking any time, before the fine is paid violations. Because of The Traf- off. We would like not to have Committee's recently an- to pester the students about a tration numbers (License parking to the student parking Plates) have been sent to the areas. For the information of

"Stay out of the Loading tee has already sent 33 violators zones. Do not park in a driveway to the Registrars' office; their or on a sidewalk anywhere on grades will be held until the the campus. Do not block an than an hour, but left the ma- who had up to now been turning fines due have been paid. In fact, exit, or a fire hydrant (We have sional, got a chance to display the fine or fines have been paid expect it any day now). Do not tain calls. Together they make a her skills in the difficult pas- off, and the Registrar's red tab park on the ends of the oval spacers in the LA parking lot, if the spacers are next to the Now, we come to the for- street. Do not park in any loca-A citation cannot be re-There are three with three a appeal. If the appeal is allowed, piece, and several with two. The you'll get all three copies of the Traffic Committee sends the ci- citation on the College Union

> "Anyone who has one of our and pay up. It isn't really that



Dr. Keighton converses with amateur scientist