Let us enjoy self-made Ammonite accessories: A self-learning practice of replica-making of fossils, presented in the FGI

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Succeeding the last year's presentation (Fujita and Kawamura, 2007a), we will present Ammonite accessories this year too.

Elaborate and precise replicas taken from real fossils are used for academic researches in place of originals. They are often exhibited in museums in order to avoid demolition of the fragile originals. Replicas not only increase the number of specimens but also expand the chances for people to get direct observation of scientifically valuable materials.

Up to now, we demonstrated replica-making of ammonites in various times and places, like in exhibit booths or poster sessions of academic meetings. The presentation is called affectionately Ammonite accessories, and gets a great popularity among visitors to the Open House of the Fukada Geological Institute(FGI), from children to grown-ups. People look into the steaming hot plate in wondering what is doing, show interest to colorful materials, and feel amazing about the practice. If one of them intends to make one by him (her) self, it is a great pleasure for us. This is one of the powerful tools of dissemination of earth sciences.

The replica-making to be presented now has several advantages in comparison to the conventional ways of using plasters. It uses a new resin Jiyujushi (Free resin) and successfully reduce the time of hardening. It is softened quickly at 60 degrees Celsius and hardened in ice water by a few minutes of time. Thus the self-made replica can be brought home without waiting. Jiyujushi has a variety of colors, and new favorite color can be made easily by mixing different colors. Before hardened, the replica can be transformed to a pendant or stationery, by placing pins and clips or other materials. It can be used as a strap of mobile cell phones. In making replica, one can study the name and age of the ammonites, their places of occurrence. Through the conversation with the demonstrators, people are derived to know about the geology or paleontology or even natural sciences. Everybody who are interested in this practice, please try it in any occasion and in any place. Self-making the replica is as follows (Fujita and Kawamura, 2007a, b).

Materials: any fossil (please get it by yourself), Oyumarukun (high-temperature resin, Hinodewashi Co. Ltd., www.hinodewashi.co.jp), Jiyujushi (low-temperature resin, Daicel FineChem Co. Ltd., www.daicelfinechem.jp), an electric pan (or hot plate), water, ice, chopsticks and little things for decoration (clips, headbands, beads, seals for nail art etc., most of these can be found in 100 yen shops).

STEP 1. Preparation of the mother molds

1. Dip an appropriate amount of Oyumarukun into hot water of above 80 degrees Celsius. Oyumarukun will be softened quickly.
2. Take the soft Oyumarukun out by chopsticks (beware of hot water), wad it up and wrap tightly the fossil with it.
3. Take out the fossil from the hardened resin after several seconds of cooling in normal temperature.
4. The resin mold thus obtained will be used as mother mold.

STEP 2. Molding the ammonite by colored resin on site

5. Dip an appropriate amount of Jiyujushi into hot water of 60 degrees Celsius or hotter. The resin becomes soft quickly.
6. Take the Jiyujushi out from the hot water with chopsticks (beware of hot water), wad it up (mix the different color resins if you like it) to jam into the mother mold.
7. Put any thing like clips or hooks into the molded resin, quickly, before the resin becomes hardened. You should plan before at what point the pins or hooks are put.
8. Put the molded resin with the mother mold into the ice water. Just wait for minutes.
9. Take out the hardened resin from the mother mold.
10. Use your resin mold for your decorations, such as necklace, straps, seals or others. Here you have your self-made accessories! That's so easy.

References: Fujita, M. and Kawamura, K., 2007a, Japan Geoscience Union Meeting 2007, A004-P006; Fujita, M. and Kawamura, K., 2007b, Annual report of FGI,vol.8.