

國立清華大學 100 學年度碩士班入學考試試題

系所班組別：語言學研究所

考試科目 (3403): 國文與英文

共 3 頁, 第 1 頁 *請在【答案卷】作答

I. 國文

作文：請對您個人至今所接受之英語教育的成效提出評論。(50%)

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II. 英文

Please read the following article, and answer the questions after the article.

The world's 6,000 or so languages have a very uneven geographic distribution, in numbers both of languages and of distinct linguistic stocks per square kilometer. At the one extreme, Europe, with an area of about 10,000,000 km², has only about 63 native languages, falling into only three stocks (51 Indo-European languages, 11 Uralic and the isolate Basque). At the opposite extreme, New Guinea, with less than one-tenth of Europe's area, has about 1,000 languages — yes, 1,000 mutually unintelligible languages, not mere dialects — falling into at least 60 stocks.

Remarkably, that implies that the vast majority of existing Old World (Eurasian plus African) languages are descended from a mere 16 or so languages that existed 10,000 years ago. Surely, in the early Holocene the Old World actually supported far more languages than 16 — there must have been tens of thousands of them, if modern New Guinea or Native American California can be taken as models. Most of those ancient Old World languages must have disappeared within the past 10,000 years, leaving as evidence of their former existence only a few isolated languages that barely survived into modern times. In western Europe, only Basque and the now-extinct Etruscan and possibly Minoan languages attest to the linguistic diversity erased by the sweep of the Indo-European steamroller over Europe. What enabled speakers of those 16 ancestral languages to supplant their tens of thousands of brethren?

Bellwood and Renfrew attribute the steamrollers to the very local origins of agriculture around the world. At most only nine circumscribed areas, perhaps as few as five, supported a sufficient diversity of domesticable wild plant and animal species to permit food production to arise independently, beginning about 10,000 years ago in the Fertile Crescent of southwest Asia. Because even ancient food production yielded 10–100 times the human population densities that could be supported by the hunter-gatherer lifestyle, farmers spread from those few homelands to interbreed with, dominate or replace the hunter-gatherers, and thereby carry their domesticated animals, languages and genes over most other areas suitable for agriculture. By erasing the products of previous tens of thousands of years of language evolution, the Holocene agricultural expansions reset the linguistic clock in much of the world. Only a few regions, such as New Guinea and Native California, remained unaffected.

Each of the two earliest centers of agriculture in the Old World — southwest Asia and China — is the inferred homeland of four or five now-widespread language families. From southwest Asia came the languages ancestral to the modern Indo-European, Dravidian, Turkic and Semitic language families or groups, while China spawned the Sino-Tibetan, Austroasiatic, Austronesian, Tai-Kadai and Miao-Yao language families. So those two homelands account for the languages spoken by about 90 per cent of all people alive on Earth today.

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The population expansions of the Holocene have major implications for understanding human genetic history. There is great current interest in much earlier postulated population replacements, as anatomically modern humans emerged between about 150,000 and 40,000 years ago. They include the hotly debated replacements of Neanderthals and other Eurasian populations by populations derived from Africa. Geneticists approach these questions by sampling human populations on different continents. But genetic diversity within each continent has been greatly influenced by those known population expansions of the past 10,000 years, which homogenized the populations of some continents (notably, Eurasia) much more thoroughly than those of others (Africa, the Americas, New Guinea). In addressing questions about the earlier population expansions in the Pleistocene, geneticists' sampling regimes must take into account the effects of the subsequent Holocene expansions.

Suppose, for instance, that one took an African sample including populations (Pygmies and Khoisan) that had survived the Holocene expansion of Bantu farmers, and then compared that African sample with seemingly more far-flung European and East Asian population samples, all of which were in reality recently derived from farmers' expansions out of small areas of southwest Asia and China respectively. The resulting higher calculated inter-population genetic diversity of the African sample might then tell us more about Holocene dispersals than about Pleistocene dispersals. Precisely these considerations are, of course, what underlie the proposal of a Human Genome Diversity Project — which seeks to obtain representative sampling of surviving genetic diversity before our most informative remaining populations at last become steamrollered out of their separate existence.

Questions (10% each)

- (1) It is said in the article that "*The resulting higher calculated inter-population genetic diversity of the African sample might then tell us more about Holocene dispersals than about Pleistocene dispersals*" (paragraph 6). Why?
- (2) Why does the article use the term "*steamroller*"?
- (3) What is the key factor, according to the article, for the expansion of a population and the spreading of its language?
- (4) What does the word "*domesticable*" (paragraph 3) mean?
- (5) What does the word "*homogenized*" (paragraph 5) mean in this article?