

Université de Toulouse Jean Jaurès
Concours d'Entrée, Juin 2017
CeTIM : Centre de Traduction, Interprétation et Médiation Linguistique

Sujet d'anglais
Niveau M2
Durée de l'épreuve : 1h30

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Répondre aux questions dans un document Word (interligne 1,5), que vous intitulerez
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A la fin de l'épreuve, envoyez votre document à : secretariatcetim@univ-tlse2.fr et josselin@univ-tlse2.fr

Consignes :

1. Traduisez l'intégralité du texte en français (732 mots à traduire, titre compris).
2. Choisissez **trois** unités terminologiques précises dans le texte qui vous ont posé problème pour la traduction ; expliquez en quoi consiste le problème, comment vous l'avez résolu et grâce à quelles ressources en ligne.
3. Faites la liste de l'ensemble des ressources en ligne utilisées pour la traduction du texte et classez-les.

How to Draw an Exoplanet

A pair of illustrators turned tiny blips in data into vivid views from the TRAPPIST-1 star system.

[Marina Koren](#), Feb 24, 2017, [Science](#)

<https://www.theatlantic.com/science/archive/2017/02/exoplanet-trappist-nasa/517590/>

1 Fifteen years ago, Tim Pyle was animating spaceships for *Invader Zim* on Nickelodeon. These days,
2 he illustrates exoplanets orbiting stars in the Milky Way.

3 This week, Pyle watched from the office he shares with Robert Hurt on the Caltech campus in
4 Pasadena as the internet exploded over their latest artwork. NASA [announced](#) on Wednesday the
5 discovery of seven Earth-sized planets around a star called TRAPPIST-1 nearly 40 light-years away,
6 some of which orbit in the habitable zone, where liquid water could exist. Pyle and Hurt provided
7 the illustrations that came with the news, artistic renderings of unknowable worlds that only show
8 up in data as tiny blips.

9 “It’s very gratifying to see that so many people reacted the same way that Robert and I reacted
10 when we first heard about it,” Pyle told me on the day of the news. “I mean, it’s seven Earth-sized
11 planets, right?”

12 The findings marked one of the biggest assignments for Pyle and Hurt, who have worked together
13 at Caltech’s Infrared Processing and Analysis Center for 12 years. The pair have produced
14 illustrations of many exoplanets, like [Kepler-62f](#), [Kepler-186f](#), and [Kepler-452b](#), named for the space
15 telescope that discovered them, and other spacescapes. Before Pyle got to Caltech, he worked on
16 animated shows, including *Jimmy Neutron* and *Spongebob Squarepants*, and provided visual effects
17 for movies like *X-Men*. Hurt is an art-loving astronomer who joined IPAC to scan the skies for stars
18 and galaxies before combining his two interests into one job. “We are the yin and yang,” Hurt said.
19 “The scientist with a strong interest in art, and the artist with a strong interest in science.”

20 The process involved near-constant back-and-forth between the artists and the astronomers
21 behind the findings, who work at the University of Liège, the Massachusetts Institute of
22 Technology, and other institutions. The astronomers gave Pyle and Hurt all the information they
23 had on the seven TRAPPIST-1 exoplanets: their estimated size, the time it takes for them to
24 complete one loop around the star, and their gravitational interactions with each other, which
25 provide some hints about their masses. Together, they came up with what Hurt calls “plausible
26 models” for what these alien worlds might look like. They used off-the-shelf software, like
27 LightWave 3D and Adobe After Effects and Photoshop.

28 The vernacular astronomers use to describe things we can’t see arises from that which we can see:
29 what’s inside our own solar system. TRAPPIST-1b, the innermost planet, was modeled after [Io](#),
30 Jupiter’s moon. Both objects closely orbit their parent star or planet, and are subjected to intense
31 radiation that turns their surfaces into orange, volcanic terrain churning with lava. Io and Planet B
32 are tidally locked (like the rest of the TRAPPIST-1 planets), which means one side perpetually faces

33 the parent object. Planet C, next in line, is spared the worst of the star's heat, but there's enough
34 to make it a pale, rocky world. Planet D is a double agent, far enough into the habitable zone to
35 potentially harbor water on its night side, but not enough to sustain it on its day side. Hurt teased
36 the possibility of water by drawing a sprinkling of turquoise along Planet D's terminator, the edge
37 between starlight and darkness, where temperatures could be just right.

38 Planets E and F appeared to be less dense than their siblings, so they became water worlds like
39 Earth, swirling with blue and white, because water is less dense than rock. Astronomers don't know
40 whether any of the planets have atmospheres, but Planet G, as the largest in the lineup, seemed
41 the likeliest to be able to hold onto one. It was modeled after Neptune, with a few wisps of cloud.
42 Hurt picked the color green for Planet G to avoid comparisons to the gas giants in our own solar
43 system. The scientists know the least about Planet H, the last one they could detect. But any object
44 that far out from its star would be extremely cold, so Planet H became an ice ball.

45 If the colors in the system seem too vivid or rich for the vast expanse of space, consider Pluto. The
46 dwarf planet was long thought to be a monochrome ball of ice and rock, until New Horizons
47 showed up two years ago and [revealed anything but](#).